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THE
EXTRA PHARMACOPŒIA

MARTINDALE
AND
WESTCOTT

SIXTH EDITION
1890

COLL. REG. MED. LOND.
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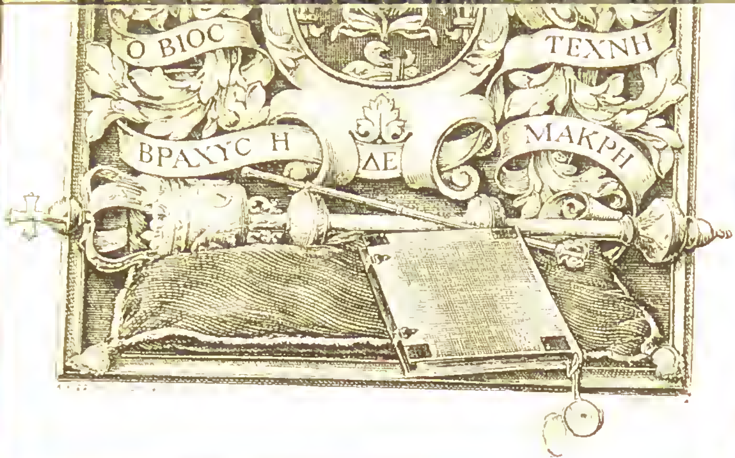
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THE

EXTRA PHARMACOPŒIA

WITH THE

ADDITIONS

INTRODUCED INTO THE BRITISH PHARMACOPŒIA, 1885.

BY

WILLIAM MARTINDALE, F.C.S.
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Late Teacher of Pharmacy and Demonstrator of Materia Medica at
University College.

MEDICAL REFERENCES
AND A
THERAPEUTIC INDEX OF DISEASES AND SYMPTOMS
BY

W. WYNN WESTCOTT, M.B. LOND.
DEPUTY-CORONER FOR CENTRAL MIDDLESEX.

SIXTH EDITION.

LONDON:
H. K. LEWIS, 136, GOWER STREET, W.C.
1890.

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PREFACE TO THE SIXTH EDITION.

In issuing this Edition of the "Extra Pharmacopœia" (36th Thousand), we have again to record the important progress which has been made in the therapeutic treatment of disease. At present the current of Pharmacology seems to be following the course of Modern Chemistry through the intricacies of the endless series of derivatives obtained from Coal Tar and various Alcohols. From these sources, with the aid of the advances made by Chemical Science in producing substitution compounds, an attempt is being made to found a system of Rational Therapeutics. The pursuit in this direction has been so largely developed that there has been a tendency to set aside the progress which had formerly been made empirically, in the employment of pure inorganic salts and definite chemical principles obtained from the vegetable kingdom. Thus we find that, although during the last two years the price of both Quinine and Morphine—the two mainstays of the Medical Practitioner of twenty years ago—has been unprecedentedly low, yet, so far as English Therapeutics is concerned, their use has been at a discount. Their place in medical treatment is in a great measure filled by Antipyrin, Antifebrin, Phenacetin, Exalgin, and Salicylate of Sodium, on the one hand, and by Sulphonal, Tetronal, Chloral, Paraldehyde, Metaldehyde, Chloralamide, Methylal, Amylene Hydrate, and Urethane, on the other. We therefore give many abstracts of the therapeutic uses and the pharmacy of these chemical compounds, and of many of their allied products, such as Salol, Cresalol, Di-thiosalicylate of Sodium, Phenylacetic, Phenylpropionic, and Trichloracetic Acids; Ural, Somnal, Benzanilide, Monobrom-Acetanilide, Hydracetin, Methacetin, and Orexine Hydrochlorate; also of Curarine, Cannabine, Ergotinine Citrate, Anthrarobin, Creolin, Thiol, Thio-Resorcin, Sozoiodol, Myrtol, Safrol, Bromoform, Isobutyl Nitrite, Potassium Cobalto-Nitrite, Rubidium-Ammonium Bromide, Gold Bromide and Mercuro-Zinc Cyanide. The Therapeutical References and Index have been much extended; the pharmacy of Chian Turpentine improved, a pill of Phosphorus in combination with Nux Vomica, and several other formulæ for Pills and Hypodermic Injections of new Mercurial compounds in Vaseline Oil have been added. The additional Unofficial Formulæ of the British Pharmaceutical Conference have been inserted, including Acetum and Acetic Syrup of Ipecacuanha, Elixir of Senna, improved Chloroform preparations of Aconite and Belladonna, and Hypophosphite Syrups. Notes on the latest information on the Anæsthetic use of Chloroform, on Chloride of Methyl, and on the Mydriatic Alkaloids, have been collated.

Altogether about 50 pages have been added to the work, while several have been deleted to keep the work as much as possible in a portable form. We regret we are unable to introduce in this edition any notes from the German Pharmacopœia, the publication of which has been delayed; it will be for the first time in the German language, the last was in Latin, and was so highly esteemed as a work of reference, that it was translated into English and reprinted in America.

An Addendum to the British Pharmacopœia is under consideration, but very little progress has yet been made, while the demand for a new edition of the Extra Pharmacopœia is so pressing that we are unable to defer its publication until after the appearance of this Official Addendum.

We have again abridged the Review of the British Pharmacopœia into a Synopsis of the alterations that have been made in that work as compared with its predecessor, so that medical practitioners who have not had an opportunity of making themselves acquainted with the last official work, may see at a glance the important alterations that affect their prescribing. As stated in our first preface, the medicines are viewed specially from a pharmaceutical and medical aspect; references to their use, with the doses employed, are given in *précis*. The area of selection is limited by personal experience. Official drugs are introduced when non-official preparations of them are in use, or the official preparations have undergone alteration. The Secondary List of drugs to which medical attention has been more or less directed, but which have not come into general use, has been extended. The Index forms a copious Posological Table. As heretofore, except in one or two cases, the pharmaeopœial doses for official drugs have been adhered to; the other doses are culled from the best authorities. The terms *Drachm* and *Ounce*, when applied to liquids, are understood to be the Fluid Drachm and Fluid Ounce respectively, as defined by the British Pharmaeopœia. Except in some instances of foreign formulæ, where we state that liquids are to be weighed, when parts are referred to, it is to be understood that ounces and fluid ounces, grains and grain-measures, or grammes and cubic centimetres, respectively, are to be employed. In regard to the formulæ for hypodermic injections and several others, as a minim is not equal to a grain-measure, and as hypodermic syringes and dispensing measures are graduated in minims, for practical purposes we have generally avoided the use of "parts" when referring to these small quantities. They are therefore ordered in grains and minims or ounces (*i.e.* fluid ounces); thus Injectio Morphinæ Hypodermica contains 1 grain of Acetate of Morphine in 10 minims. Exceptions to this rule are clearly indicated.

Percentage solutions are sometimes mentioned, by which we intend that 100 grain measures of the finished solution shall contain *n* grains of the substance, like a volumetric solution; *e.g.* a 50 per cent. solution of Hydrochlorate of Cocaine will contain 50 grains in 100 grain-measures, and will dilute with an equal volume of liquid to form a 25 per cent. solution.

In conclusion, we hold that the art of pharmacy should tend towards making medicines palatable, but not at the expense of their efficacy. They should be combined extemporaneously to suit the disease; the reverse method should be avoided, in which the patient is treated by ready-made compounds prepared to suit imaginary cases, as is too much the tendency of the present day.

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396, Camden Road, N.

1890.

METRICAL WEIGHTS AND MEASURES AND THEIR BRITISH EQUIVALENTS.

1 Gramme ... ... = 15·432 grains.
1 Centigramme ... ... = between $\frac{1}{6}$ and $\frac{1}{7}$ grain.
1 Milligramme... ... . = about $\frac{1}{65}$ grain.
1 Litre ... ... = 35·2754 fluid ounces.
1 Cubic Centimètre (1 c. c. = 1 Millilitre) ... ... = 17 minims (nearly).
1 Mètre ... ... = 39·37079 inches

The Gramme has its decimal multiples—Decagramme, Hectogramme, and Kilogramme; and divisions—Decigramme, Centigramme, and Milligramme. The Litre and Mètre have their corresponding decimal divisions—Decilitre, Centilitre, and Millilitre,—and Decimètre, Centimètre, and Millimètre.

In Continental states, where this system is now generally adopted for the dispensing and preparing of medicines, all liquids are weighed, and the terms Gramme, Centigramme, and Kilogramme only are used. This avoids the possibility of errors, which the similarity of the names Decagramme and Decigramme might lead to.

In Germany the quantities of the ingredients in prescriptions are written in decimal proportions, the gramme being understood to be the unit; the name of the integer is generally not mentioned, thus:

Rhubarb 35· means 35 grammes of Rhubarb.
,, ·035 ,, 35 milligrammes ,,

ABBREVIATIONS.

When the reference is to a periodical, the number put first is the number of the volume; then follow the last two figures of the year, and the last number refers to the page.

Am. D.—American Druggist.
B.—Bartholow, R., A Practical Treatise of Materia Medica and Therapeutics.
B.M.J.—British Medical Journal.
B.P.C.—Unofficial Formulary, British Pharmaceutical Conference.
Br.—Braithwaite, W. & J., Retrospect of Medicine.
Brunton.—Text-Book of Pharmacology, Therapeutics, and Materia Medica, by T. Lander Brunton, M.D.
B.S.H.—Pharmacopœia of the British Hospital for Diseases of the Skin.
C. and D.—Chemist and Druggist.
Chem. News.—Chemical News.
Codex.—Pharmacopée Française.
Ed. M.J.—Edinburgh Medical Journal.
G.—The Essentials of Materia Medica and Therapeutics, by Sir A. B. Garrod, M.D., and N. J. C. Tirard, M.D.
L.—The Lancet.
L.H.—Pharmacopœia of the London Hospital.
M.C.—Medical Chronicle, Manchester.
M.P.C.—The Medical Press and Circular.
M.R.—The London Medical Record.
M.T.G.—The Medical Times and Gazette.

N.R.—New Remedies—New York.
Off.—Official—in the British Pharmacopœia.
P.G.—Pharmacopœa Germanica.
P.J.—Pharmaceutical Journal.
P.L.—Pharmacopœia Londinensis, 1851.
P.M.J.—Provincial Medical Journal.
Pr.—The Practitioner.
R.—Handbook of Therapeutics, by Sidney Ringer, M.D.
R.O.H.—Pharmacopœia of the Royal London Ophthalmic Hospital.
T.H.—Pharmacopœia of the Hospital for Diseases of the Throat.
Th.Gaz.—Therapeutic Gazette, Philadelphia.
U.C.H.—Pharmacopœia of the University College Hospital.
U.S.—Pharmacopœia of the United States.
Y.B.—The Year-Book of Treatment.

ADDITIONS

TO THE

BRITISH PHARMACOPŒIA,

Made by the Revision of 1885.

Acidum Carbolicum Liquefactum.
Acidum Chromicum.
Acidum Hydrobromicum Dilutum.
Acidum Lacticum.
Acidum Lacticum Dilutum.
Acidum Meconicum.
Acidum Oleicum.
Acidum Phosphoricum Concentratum.
Acidum Salicylicum.
Alcohol Ethylicum.
Aloin.
Anisi Fructus.
Anisi Stellati Fructus.
Antimonium Nigrum Purificatum.
Apomorphinæ Hydrochloras.
Aqua Anisi.
Argenti et Potassii Nitras.
Arsenii Iodidum.
Bismuthi Citras.
Bismuthi et Ammonii Citras.
Butyl-Chloral Hydras.
Caffeina.
Caffeinæ Citras.
Calamina Præparata.
Calx Sulphurata.
Chrysarobinum.
Cimicifugæ Rhizoma.
Cinchonidinæ Sulphas.
Cinchoninæ Sulphas.
Coca.
Cocainæ Hydrochloras.
Codeina.
Collodium Vesicans.
Cupri Nitras.
Elaterinum.
Ergotinum.
Extractum Belladonnæ Alcoholicum.
Extractum Cascaræ Sagradæ.
Extractum Cascaræ Sagradæ Liquidum.
Extractum Cimicifugæ Liquidum.
Extractum Cocæ Liquidum.
Extractum Gelsemii Alcoholicum.
Extractum Jaborandi.
Extractum Rhamni Frangulæ.
Extractum Rhamni Frangulæ Liquidum.
Extractum Taraxaci Liquidum.
Gelseminum.
Glycerinum Aluminis.

Glycerinum Plumbi Subacetatis.
Glycerinum Tragacanthæ.
Infusum Cinchonæ Acidum.
Infusum Jaborandi.
Injectio Apomorphinæ Hypodermica.
Injectio Ergotini Hypodermica.
Iodoformum.
Jaborandi.
Lamellæ Atropinæ.
Lamellæ Cocainæ.
Lamellæ Physostigminæ.
Liquor Acidi Chromici.
Liquor Ammonii Acetatis Fortior.
Liquor Ammonii Citratis Fortior.
Liquor Arsenii et Hydrargyri Iodidi.
Liquor Calcii Chloridi.
Liquor Ferri Acetatis.
Liquor Ferri Acetatis Fortior.
Liquor Ferri Dialysatus.
Liquor Morphinæ Bimeconatis.
Liquor Sodii Ethylatis.
Lupulinum.
Menthol.
Morphinæ Sulphas.
Oleatum Hydrargyri.
Oleatum Zinci.
Oleo-Resina Cubebæ.
Oleum Eucalypti.
Oleum Pini Sylvestris.
Oleum Santali.
Paraffinum Durum.
Paraffinum Molle.
Physostigmina.
Pilocarpinæ Nitras.
Potassii Cyanidum.
Pulvis Elaterini Compositus.
Quininæ Hydrochloras.
Rhamni Frangulæ Cortex.
Rhamni Purshiani Cortex.
Salicinum.
Sodii Bromidum.
Sodii Iodidum.
Sodii Salicylas.
Sodii Sulphis.
Sodii Sulphocarbolas.
Sodium.
Spiritus Ætheris Compositus.
Spiritus Cinnamomi.
Staphisagriæ Semina.
Suppositoria Iodoformi.
Tabellæ Nitroglycerini.
Thymol.
Tinctura Chloroformi et Morphinæ.
Tinctura Cimicifugæ.
Tinctura Gelsemii.
Tinctura Jaborandi.
Tinctura Podophylli.
Trochisci Acidi Benzoici.
Trochisci Santonini.
Unguentum Acidi Borici.
Unguentum Acidi Carbolici.
Unguentum Acidi Salicylici.
Unguentum Calaminæ.
Unguentum Chrysarobini.
Unguentum Eucalypti.
Unguentum Glycerini Plumbi Subacetatis.
Unguentum Hydrargyri Nitratis Dilutum.
Unguentum Iodoformi.
Unguentum Staphisagriæ.
Unguentum Zinci Oleati.
Vapor Olei Pini Sylvestris.
Zinci Sulphocarbolas.
Benzolated Amylic Alcohol.
Petroleum Spirit.
Phenol-Pthalein.
Solution of Potassio-Mercuric Iodide.
Solution of Litmus.
Solution of Yellow Chromate of Potassium.
Tincture of Phenol-Phthalein.

OTHER IMPORTANT CHANGES
in B.P. 1885.

The most important omissions are :—Digitalinum, Folia Stramonii, Hydrargyri Iodidum Viride, and Mistura Gentianæ. Changes of nomenclature were made to agree with the theories of modern chemists,—the salts of am-

monia, lime, lithia, magnesia, potash and soda are now considered as salts of ammonium, calcium, lithium, magnesium, potassium, and sodium. Alkaloids have the uniform Latinised affix—*ina* (from the U.S. Pharmacopœia), with corresponding English affix—*ine*. Quinia (formerly quina) is now quinina; strychnia, strychnina; morphia, morphina, *Ang.* morphine. The solutions of active remedies, formerly 1 grain in 2 drachms, are made to contain 1 per cent. but not exactly—1 grain is dissolved in 99 grain measures or about 110 minims of solvent respectively in each case. They are as follows:—

Liquor Arsenicalis.
,, Arsenii Hydrochloricus.
,, Atropinæ Sulphatis.
,, Morphinæ Acetatis.
Liquor Morphinæ Hydrochloratis.
,, Potassii Permanganatis.
,, Sodii Arseniatis.
,, Strychninæ Hydrochloratis.

In the galenical preparations of cinchona, cultivated red bark replaces yellow and pale bark. The degree of fineness of powders is indicated by Nos. 20 to 60, being the number of parallel wires in a linear inch of the meshes of the sieves used. The following galenical preparations have been standardised to contain—

Aqua Laurocerasi	0·1 per cent. of Hydrocyanic Acid.
Extractum Cinchonæ Liquidum	5 ,, ,, of total alkaloids.
,, Nucis Vomicæ...	15 ,, ,, ,, ,,
Tinctura ,, ,, ...	1 gr. alkaloids in 1 ounce.
Extractum Opii	20 per cent. of morphine.
,, ,, Liquidum...	1 ,, ,, ,,
Tinctura Opii...	0·75 ,, ,, ,,
Vinum ,, ...	4 grs. morphine in 1 ounce.

Red bark must yield between 5 and 6 per cent. of total alkaloids, and opium as nearly as practicable 10 per cent. of morphine.

The official Hypodermic Injection of Morphine now contains 1 grain in 10 minims. The Liniments of Aconite and Belladonna are made of such strength that 1 ounce of root produces 1½ ounces of liniment; Plaster of Belladonna is now of a reddish-brown colour, being prepared from an extract of the root. Ipecacuanha Wine is prepared by dissolving an acetic extract of ipecacuanha in sherry, and the time directed for preparing the INFUSIONS has been generally reduced.

The quantities in some of the formulæ have been represented in duplicate, by old weights and measures and by parts and fluid parts. This has led to the introduction of the terms "grain measures" and "fluid grains," without any definition of the latter. The general introduction of the metric weights and *measures* is still a desideratum; we should require both, as, although in other countries liquids are dispensed by weighing, we could not give up dispensing fluids by measure without sacrificing both accuracy and dispatch.

The Posology is defective,—the range of dose is too limited,—the minimum is frequently much too large and the maximum too small. The doses of the preparations of a drug also are not consistent with one another: for example, of Chloroform, the dose is given as 3 to 10 minims; the equivalent dose of this in Aqua Chloroformi would be 1¼ to 4 ounces,—the dose is given as ½ to 2 ounces: in Spiritus Chloroformi, the equivalent would be 1 to 3½ drachms,—the dose is given as 20 to 60 minims; of Tinctura Chloroformi Composita, 30 to 100 minims,—the dose is given as 20 to 60 minims; of Tinctura Chloroformi et Morphinæ, 24 to 80 minims,—the dose is given as 5 to 10 minims (the Morphine and Hydrocyanic Acid in this are comparatively insignificant). Again, the dose of Camphor is given as 1 to 10 grains: Spirit of Camphor equivalent to this would be 10 to 100 minims,—the dose is given as 10 to 30 minims. Of Barbadoes and Socotrine Aloes and their Extracts the same dose is given,—2 to 6 grains,—one grain as a rule will purge; so will 1 grain of Resin of Jalap, yet the dose is given as 2 to 5 grains. The minimum dose of the following, too, is rarely exceeded, and less is more frequently prescribed: — Hypophosphite of Calcium, 5 to 10 grains; Extract of Opium, ½ to 2 grains; Extract of Nux Vomica, ½ to 2 grains*

Reprints give it ¼ to 1 grain.

(2 grains are equal to $\frac{3}{10}$ grain of Strychnos alkaloids !); Tincture of Nux Vomica, 10 to 20 minims; Liquor Ammonii Acetatis, 2 to 4 drachms; Oleum Phosphoratum, 5 to 10 minims; (10 minims are equal to $\frac{1}{10}$ grain of Phosphorus !); and the maximum dose of Donovan's Solution, 30 minims, contains over $\frac{3}{10}$ grain respectively of each, Iodide of Arsenium and Red Iodide of Mercury (!), although the dose of the former is given as $\frac{1}{30}$ grain, of the latter $\frac{1}{32}$ to $\frac{1}{8}$ grain. On the other hand an adult dose of 15 to 30 minims of Liquid Extract of Male Fern will generally prove useless. A better plan of stating the dose in an official work, as so few agree on the subject, is that adopted by the German Pharmacopœia,—the maximum single and daily dose is stated, should the prescriber wish to exceed these, he is instructed to call attention to them by the sign (!).

From the prescriber's point of view, the preparations which have been most affected are *Extractum Cinchonæ Liquidum: dose*, 5 to 10 minims; and *Infusum Cinchonæ Acidum: dose*, 1 to 2 ounces,—these are now acid preparations, incompatible with alkalies. Should the old preparations be required, they should be distinctly ordered as 1867, or *Extractum Cinchonæ* **Flavæ** *Liquidum* and *Infusum Cinchonæ* **Flavæ**.

LIST OF THE

UNOFFICIAL FORMULARY, B.P.C.

(*British Pharmaceutical Conference*),

1889.

	Dose.	Page
Acetum Ipecacuanhæ	5 to 40 m.	231
Acidum Hydrocyanicum (Schoele) 4 per cent.	1 to 4 m.	
,, Hypophosphorosum	2 to 5 m.	299
Chloral cum Camphora...		100
Chloroformum Aconiti		37
,, Belladonnæ		73
,, Camphoratum		106

Elixir Cascara Sagrada	15 m. to 2 dr.	337
,, Guaranæ	½ to 2 dr.	200
,, Phosphori	15 m. to 1 dr.	294
,, Saccharini	5 to 20 m.	341
,, Sennæ	1 to 3 dr.	166
,, Simplex	20 to 60 m.	165
Emulsio Olei Morrhuæ, II.	2 to 8 dr.	278
Extractum Grindeliæ Liquidum	10 to 30 m.	199
,, Hæmatoxyli ,, ...	5 to 20 m.	201
,, Hamamelidis ,, ...	2 to 5 m.	201
,, Hydrastis ,, ...	5 to 30 m.	209
,, Tritici ,, ...	1 to 6 dr.	375
Injectio Curare Hypodermica	1 to 6 m.	159
Linimentum Opii Ammoniatum		52
Liquor Ferri Hypophosphitis Fortis... ...	10 to 30 m.	300
,, Hypophosphitum Compositus ...	½ to 2 dr.	300
,, Picis Carbonis		116
Pilula Ferri (Blaud)	1 to 3	443
Pix Carbonis Liquida Præparata		116
Syrupus Apomorphinæ Hydrochloratis ...	½ to 1 dr.	59
,, Butyl-Chloral	1 to 4 dr.	81
,, Calcii Hypophosphitis	1 to 4 dr.	299
,, Cascara Sagrada	1 to 4 dr.	337
,, Codeinæ	½ to 2 dr.	148
,, Ferri Bromidi	½ to 1 dr.	180
,, ,, Hypophosphitis	½ to 2 dr.	301
,, ,, Phosphatis Compositus ...	½ to 2 dr.	187
,, ,, et Quininæ Hydrobromatum	½ to 1 dr.	181
,, ,, Quininæ et Strychninæ Hydrobromatum	½ to 1 dr.	181
,, ,, Quininæ et Strychninæ Phosphatum	½ to 1 dr.	188
,, Hypophosphitum Compositus ...	½ to 2 dr.	301
,, Ipecacuanhæ Aceticus	¼ to 2 dr.	231
,, Pruni Virginianæ	½ to 2 dr.	322
,, Sodii Hypophosphitis...	1 to 4 dr.	301
Tinctura Benzoini Simplex		459
,, Bryoniæ	1 to 10 m.	80
,, Calendulæ Florum	5 to 20 m.	86
,, Capsici Fortior	1 to 3 m.	96
,, Carminativa	2 to 10 m.	192
,, Convallariæ	5 to 20 m.	153
,, Coto	10 to 30 m.	154
,, Ergotæ Ammoniata	10 to 60 m.	170
,, Erythrophlœi	5 to 10 m.	171
,, Eucalypti	15 m. to 2 dr.	174
,, Euonymi	10 to 40 m.	178
,, Euphorbiæ Piluliferæ	10 to 30 m.	178
,, Hamamelidis	5 to 60 m.	202
,, Hydrastis	20 m. to 1 dr.	210
,, Iodi Decolorata		229
,, Phosphori Composita	3 to 12 m.	297
,, Pruni Virginianæ	20 to 60 m.	323
,, Strophanthi	2 to 10 m.	353
Unguentum Oleo-Resinæ Capsici		97

ABRUS.

Jequirity Seeds. — *Syn.* PRAYER BEADS; JUMBLE BEADS; GUMCHI (*Hindi*); INDIAN LIQUORICE.

These seeds, the produce of *Abrus precatorius,* of a scarlet colour, with a black patch round the hilum, hard and difficult to powder, are innocuous when eaten, but poisonous when placed in wounds or under the skin of animals. An infusion of Jequirity is used to produce purulent ophthalmia for the cure of granular lids; the seeds in powder 3 parts, cold water 500, with hot water 500 afterwards added, is filtered when cold, and applied 3 times in one day, and repeated the second and third days if required. The irritation is caused by a bacillus.—Ophth. Rev.i./83,19 *ex* Annales d'Oculistique ii./82,42; L. ii,/83,120,600,742; B.M.J. ii./83,1015. Two proteids *paraglobulin* and *a-phytalbuminose,* have been isolated from Abrus seeds. The latter is identical with papain. The so-called *Abrin* is a mixture.—P.J. 1887,234, *ex* Proc. Roy. Soc., May, 1887. Official report on, B.M.J. ii./89, 184; P.J. 1889, 197.

Infusum Abri, R.O.H. — Jequirity seeds in powder 2, water at 120° F., 25; decant when cold.

The ophthalmia is probably caused by a pepsin-like ferment, and not by the bacilli.—B.M.J. i./84,476,564.

Epithelioma, lupoid growths, and sloughy ulcers cured by the inflammation produced by infusion.—L. ii./84,32; Pr. xxxiii.366.

Ulcers of the cornea. when asthenic are improved by weak infusions.—Th. Gaz. 1887,641.

ACIDUM BENZOICUM.

Benzoic Acid (*Off.*).—*Syn.* BENZOYL HYDRATE.

Dose.—3 to 15 grains, or more.

Soluble 1 in 220 of cold water; very soluble in alcohol, fats, oils, and alkaline solutions (forming benzoates). It prevents fats becoming rancid, as in adeps benzoatus, B.P.

It is said to possess antipyretic properties, and as an antiseptic to be even more powerful than carbolic or salicylic acid.—M.T.G. ii./73,488; P.J. 1875,307.

Four grains of Benzoic Acid with 1 grain of Canada balsam, or 1 minim of glycerine, make a good pill, but it is more frequently administered in solution, as a benzoate.

A saturated aqueous solution, or a solution in spirit or eau de Cologne (about 1 in 40), is very serviceable in relieving urticaria.—R.

A one in 20 solution in rectified spirit, and this diluted with water as required, may be used as an antiseptic solution or lotion. Applied as a dry antiseptic, its dust is irritating to the nostrils of patients and attendants.

Trochisci Acidi Benzoici (*Off.*).

Contain ½ grain in each, with plain sugar; those of T.H. have a red currant basis. Useful as a stimulant voice lozenge.

Ammonii Benzoas (*Off.*).

Dose.—10 to 30 grains, or more.

In colourless laminar crystals; soluble 1 in 5 of cold water, and 1 in 12 of rectified spirit.

Sodii Benzoas.

Dose.—10 to 30 grains; in phthisis, 1 to 4 drachms.

In white granular crystals; soluble 1 in 2 of cold water.

Benzoic Acid and the benzoates have been used in the treatment of phthisis and various febrile diseases, given in large doses, so as to be a germicide to the fever poison.

Benzoate of sodium in distilled water, 5 per cent. solution, is recommended for use as a spray for inhalation in phthisis, &c., to be used to the extent of 7 to 15 drachms daily for an adult, or 15 grains taken 5 to 10 times a day in milk, and continued for several months.—L. ii./79,886; B.M.J. ii./79,982; M.T.G. ii./79,585; Pr. xxiii.415; B.M.J. ii./82,125.

In diphtheria, 2 to 4 drachms daily, with 10 per cent. solution, as a spray inhalation.—Pr. xxiii.453; Pr. xxiv. 128,131.

Benzoate of sodium as an antipyretic. *Dose.*—2 to 4 drachms.—Pr. xxiii.217.

Successful in the treatment of rheumatic polyarthritis where salicylates fail; in dose up to 4 drachms daily.—Pr. xxv. 218.

Use in whooping-cough, scarlet fever, and diphtheria. —M.R. 1880,315.

Editorial notes on therapeutic use in phthisis, &c.—M.T G. i./79,596; B.M.J. i./80,23,72.

In uræmia is given with success, albuminuria lessens, it inhibits the formation of urea, one to two drachms a day, given hourly.—B.M.J. i/88,90; Th. Gaz. 1888,263.

Diphtheria and tonsillitis are relieved by its internal use.—Th. Gaz. 1888,265.

On the dog, a powerful hepatic stimulant, but not an intestinal stimulant; likely to prove useful in congestion of the liver, jaundice, &c.—B.M.J. i./79,69.

In the treatment of acute rheumatism, doses of 15 to 20 grains every 2 or 3 hours were successful in 5 cases Should be continued in diminished doses for 24 or 48 hours after the rheumatic symptoms have disappeared.—B.M.J. i./81,336.

Being tasteless, innocuous, and a powerful antiseptic, is suggested as the best preservative of milk, &c.—Chem. News, i./86,130.

Calcii Hippuras, Hippurate of Calcium.

Dose.—5 to 20 grains.

In shining white crystals, soluble about 1 in 27 of water.

Lithii Hippuras, Hippurate of Lithium.—See p. 244.

Sodii Hippuras, Hippurate of Sodium.

Dose.—5 to 30 grains.

Is met with in commerce as a readily soluble white amorphous powder. Both it and the benzoate are recommended in gout, gravel, and calculus, as solvents for urates, an alkaline citrate being added if the urine of the patient be abnormally acid; hippuric acid salts react on urates in solution, and in time no trace of uric acid can be detected. Unlike the other organic salts of alkalies in which the acid radicle is decomposed by passing through the system, when taken, Benzoates and Hippurates are found in the urine as Hippurates.—L. i./83,487,579,669.

ACIDUM BORICUM.

Boric Acid (*Off.*).—*Syn.* BORACIC ACID.

Dose.—5 to 30 grains, or more.

In white, pearly, laminar crystals, unctuous to the touch, without odour; has a bitterish, cooling, not acid taste. Obtained for medical purposes from borax, by the action of sulphuric acid. Soluble 1 in 26 of cold water, 1 in 3 of boiling water, 1 in 22 of rectified spirit, 1 in 5 of glycerine at 32° F., 7 in 10 at 212° F., slightly soluble in volatile oils. May be made into pills with glycerine of tragacanth, or with a fifth of its weight of cream of tartar and water.

It possesses mild antiseptic and antiputrefactive properties, but is not destructive to all low organic growths, *e.g.*, mould fungus.

Glycerinum Acidi Borici, 1 in 5.

Gossypium Acidi Borici, T.H.—See p. 199.

Linteum Acidi Borici.

Lint impregnated with Boric Acid, by passing it through a hot saturated solution coloured with cochineal or litmus, and then dried. It contains about half its weight of Boric Acid.

Lotio Acidi Borici.

Boric Acid, 1; hot water, 20. Dissolve, and when cold use the clear solution.—L. i./75,603.

Pastillus Acidi Borici, T.H. See p. 196.

Useful in aphthous affections of the mouth and throat.

Pessus Acidi Borici.

Ten grains in each, with oil of theobroma.

Styles of Boric Acid for the lachrymal sac and duct are prepared two inches long.

Suppositorium Acidi Borici.

Three grains in each, with oil of theobroma.

Useful in pruritus.

Unguentum Acidi Borici (*Off.*).

Boric Acid, in fine powder	1
Soft Paraffin	4
Hard Paraffin	2

Melt the paraffins together, sift the Boric Acid into the liquid, and stir till cold. This ointment contains one part of acid in seven parts. It is slightly weaker, but of the same consistency as the ointment No. 2 (see below), which it is intended officially to represent.

Unguentum Acidi Borici (Sir Joseph Lister).

White Wax	1
Paraffin	2
Almond Oil	2
Melt, and add in fine powder	
Boric Acid, warmed	1

Mix, and stir till it thickens. Set aside, and when solid reduce by rubbing in successive portions to an uniform smooth ointment.—L. i./75,787.

Unguentum Acidi Borici (Martindale).

	No. 1.	No. 2.	No. 3.
Paraffin (135° or 140°)	5	5	5
Vaseline	5	10	15
Boric Acid, in fine powder	2	3	4

Melt the paraffin and vaseline together; sift the Boric Acid into the liquid, and stir constantly till cold. These three ointments contain the same quantity of Boric Acid, or 1 to 5 of basis; they are also made **half** and **quarter strength**, *i.e.*, 1 of the acid to 11 and 1 to 23 of basis respectively. The ointment of full strength is used where cavities exist; the others to superficial wounds which it is desired to heal rapidly.

Boric Acid ointment is applied to surface wounds, burns, eczema, and other sores, as an antiseptic dressing and "healing ointment." On removal, it should leave the wound "clean"—it should adhere to the material on which it is spread, not so much to the sore. It is applied more like a plaster than an ointment. The hard ointment of Sir Joseph Lister is not now much in request. The No. 2 ointment, spread on lint or rag, is most suitable for general use, except in the summer, when it is sometimes too soft. No. 1 should then be used, and for smearing on No. 2 is sometimes too hard, when No. 3 should be used. It is very useful in pruritus ani et pudendi. Boric Acid ointment is also very serviceable as a dressing in the minor surgery on shipboard, steamers particularly. For hot climates, Lister's or No. 1 should be used.

Boric Acid was the basis of two Swedish nostrums—Aseptin, a powder, and Aseptin Amykos, a liquid, used in the preservation of articles of food and as an application to wounds. These, on being tested, were shown to owe their virtues to Boric Acid, which is now one of the principal agents in the antiseptic treatment. Boric Acid is also used largely in some parts of England and other countries for the preservation of milk. It is mild, and perfectly unirritating; even mechanically, the crystals do not irritate the skin, mucous membrane, wounds, ulcers, or granulating sores. Its powder, mixed with starch, forms a useful "dusting powder" for infants, &c. It checks the fœtor of perspiration. A little Boric Acid powder sprinkled in the socks or stockings prevents the disagreeable odour of sweating feet. The ointment is used as above described. The lotion and lint are useful in ulcers of the legs and elsewhere. A piece of protective oiled silk, sufficient to cover the sore exactly, is dipped in the boric lotion and first applied, and over this a piece of boric lint, also soaked in the lotion, large enough to extend an inch beyond the protective, is kept *in situ* with a bandage. Boric Acid and Borax with glycerine or honey form valuable applications for aphthæ and stomatitis. Glycerine of Boric Acid is useful for tender corns, and the powdered acid wards off fleas, flies, cockroaches, &c.

Salve Mulls are spread with **Boric Ointment,** 10 per cent.

Description and antiseptic uses of Boric Acid lotion, lint, and ointment.—L. i./75,603,717,787.

As an ordinary dressing for wounds, either as lotion, lint, or ointment, it is an antiseptic that neither irritates nor inflames.—L. i./76,734.

Boric Acid ointment useful as an antiseptic and healing ointment; wounds kept sweet two days, and dressings removed without disturbing the healing process.—B.M.J. ii./77,411.

As ointment with lanolin useful in children's eczema. If much induration, ½ to 1 per cent. of Salicylic Acid added.—B.M.J. ii./88,896.

As a cerate, 10 grains to an ounce for tinea tarsi, and as an eye lotion is very useful in purulent ophthalmia and conjunctival congestion.—Pr. xxv.56.

Leucorrhœa cured by packing the dry powdered acid into vagina.—B.M.J. ii./87,521; L. ii./88,438. Effective, but on several occasions caused toxic symptoms, eczema, swelling, burning and charring of skin.—Pr. xlii. 50, *ex* N.Y. Med. Rec.

Given in 10-grain doses internally to sterilize the urine before operations on the urethra.—Y.B. 1888, 206; B.M.J. i./88,1165.

Boroglyceride.

A patented preparation, made by heating 92 parts of glycerine with 62 parts of Boric Acid. A tough, deliquescent mass is produced, readily soluble in water and alcohol. It is recommended as a powerful antiseptic and preservative of meat, fish, milk, and other food—1 in 40 of water is used. It is also used as a surgical dressing, and given internally in aqueous solution, or in pills combined with althæa.

Use in the treatment of wounds.—L. i./82,774,937; L. ii./82,841; and in purulent ophthalmia.—L. i./83,273.

For otorrhœa.—Pr. xxxiii.47.

Liquor Magnesii Boratis.

Carbonate of Magnesium 233, Boric Acid 1550, boiling water 7500. Contains Boric Acid about 1 in 6. Is said to be the composition of **Antifungin.** Is recommended as a paint for diphtheria.—B.M.J. ii/87,526.

ACIDUM CARBOLICUM.

Carbolic Acid (*Off.*).—*Syn.* PHENIC ACID; PHENOL; HYDRATE OF PHENYL; PHENYL ALCOHOL.

Dose.—1 to 3 grains.

In colourless crystals liable to become pink; neutral to test paper; obtained commercially from coal tar. The purest acid of commerce—Absolute Phenol or No. 1—melts at from 104° to 107° F. If, while liquefied, 6 to 10 per cent. of water be added, it becomes hydrated and remains liquid, unless exposed to a low temperature. It dissolves freely in alcohol, ether, chloroform, glycerine, fixed and volatile oils, fats, melted resins,—in vaseline about 1 in 20, water at 56° F. 1 in 14, at 95° F. 1 in 12. With a less quantity of water it forms an oily mixture, not a perfect solution, unless heat be applied; at 155°F. Carbolic Acid and water mix and dissolve in all proportions. A pure acid is now manufactured synthetically from a benzene product.

Carbolic Acid is a powerful antiseptic, antiputrefactive, and disinfectant, and applied locally, it has an anæsthetic action, similar, but inferior, to that of cocaine.

Commercial Varieties in general use.

Absolute Phenol, in 1 lb., 4 oz., and 1 oz. stoppered bottles.

Detached crystals, slightly hygroscopic, taste pungent succeeded by a sensation of coldness in the mouth.

No. 1 Carbolic Acid, in 1 lb. bottles.

Of the same degree of purity as Absolute Phenol, but occurring in solid acicular crystalline masses. One part of either absolute phenol or No. 1 acid will make a perfect solution in 14 parts of water at 56° F. These are best adapted for surgical and medical use. They have not the slightest disagreeable odour.

No. 1 Carbolic Acid, *Liquid.*

Ten per cent. of water added to the above. It remains liquid at the ordinary temperature.

No. 2 Carbolic Acid, *Crystals,* in 1 lb. bottles; and

No. 2 Carbolic Acid, *Liquid,* in 6 oz. bottles, or in bulk.

These make a clear solution in 18 parts of water, are suitable for many surgical purposes, and, as they have no disagreeable odour, they are, being less costly than the above, adapted for use in the sick-room; 1 in 40 may be sprinkled about, &c.

No. 4 Carbolic Acid, *Liquid,* in 16 oz. bottles, or in bulk.

This consists of about 20 per cent. Carbolic Acid and 80 per cent. cresylic acid, and is suitable for use as a household disinfectant for drains, sinks, water-closets, urinals, &c. A solution 1 in 40 of hot water is best used at night. It is colourless or pale straw coloured.

No. 5 Carbolic Acid, *Liquid,* in gallon jars or bulk. Is adapted for stable use, dust-bins, &c.

Acidum Carbolicum Liquefactum (*Off.*).
Carbolic Acid liquefied by the addition of 10 per cent. of water.

Carbolate of Mercury.—See p. 203.

Carbolic Acid, Camphorated.
Absolute Phenol, 12; Camphor, 4; Water, 1.
Melt or rub together till liquefied. Remains liquid at low temperatures, but is not miscible with water.

A useful wound dressing, and injected to abort boils. Pr. xl.128. Also used as a pigment to the cervix uteri.

Recommended as an antiseptic, germicide, and local anæsthetic.—L. ii./89,867.

A saturated solution of camphor, about 3, in one of liquid carbolic acid, used with success as an intrapulmonary injection in phthisis; no internal irritation; average dose, 10 minims. Pr. xlii. 52.

Carbolic Acid Gauze, Carbasus Acidi Carbolici. In 6-yard pieces.

Unbleached cotton gauze, medicated with half its weight of—Carbolic Acid, 1; Resin, 4; Paraffin, 4. B.M.J. ii./71,227; P.J. 1872,41; L. ii./79,901.

Carbolic Acid Lotion.

Carbolic Acid 1, Water 19 or more.

Carbolic Oil.

Carbolic Acid, crystals	1
Olive Oil	9 (more or less, if ordered).

A modification of this, known as **Lund's Oil,** is used for oiling catheters; it is—

Absolute Phenol	1
Castor Oil	4
Olive Oil	11

As the olive oil crystallizes in winter, the following **Catheter Oil** answers better:—

Absolute Phenol	1
Castor Oil	7
Almond Oil	8

Carbolised Catgut Ligatures. Nos. 0, 1, 2, and 3.

No. 0 is finest.—B.M.J. i./69,303; P.J. 1872,41; Pr. xxv.372.

Carbolised Iodine Solution. (COLOURLESS.

Solution of Iodine, B.P. ...	2 drachms
Carbolic Acid...	44 grains
Boiling Water to	1 pint

As a pigment in diphtheria, or as a gargle or inhalation. Internally for Asiatic cholera.—L. ii./83,566.

Useful as a nasal douche in ozæna—L. ii./67,119; L. ii./83,845,935. For intra-uterine injection.—L. ii./88, 862, 993.

Carbolised Silk, for Ligatures.

Carbolic Acid, in crystals, 1; Yellow Wax, melted, 9.

Dissolve the acid in the wax, soak the silk in the solution and draw it through a cloth to remove the superfluous wax.

Carbolised Tow.

Tow impregnated with tar, and containing 10 per cent. of Carbolic Acid.

Carbolised Wool, in 1 lb. packets.

Cotton wool charged with 6 per cent. of Carbolic Acid.

Capsules of Carbolic Acid.

Contain one drachm in each glass tube, sufficient for half a pint or a pint of lotion; are portable and suitable for the use of obstetricians and surgeons.

Glycerinum Acidi Carbolici (*Off.*).

Carbolic Acid, crystals, 1; Glycerine, 4.

Useful in Pertussis. Dose.—Under 1 year ½ minim, 2 to 5 years, 1½ minims. B.M.J. i./88,743; i./89,1052, 1154; L. i./89,701.

For Hay Fever, Glycerine of Carbolic Acid 1 ounce, Hydrochlorate of Quinine 30 grains, with $\frac{1}{2000}$ part Perchloride of Mercury added, forms a useful pigment for the nasal passages.—L. i./88,1169.

Iodized Phenol.

Iodine, 1; Liquid Carbolic Acid, by weight, 4. Rub together and digest till dissolved. For intra-uterine medication on cotton "lap."—B.M.J. i./80,471, and Pr. xxv.297. Useful also as an application for ringworm of the scalp.

Mackintosh Sheeting, Pink Hat-lining of Commerce.

Used as an antiseptic dressing.—B.M.J. ii./71,227.

Oiled Silk Protective.

Oiled silk coated on both sides with copal varnish, and when dry brushed over with Dextrin, 1; Starch, 2; Carbolic Lotion (1 in 20), 16.—B.M.J. i./71,31; P.J. 1872,42. For use, see p. 12.

Pastillus Acidi Carbolici, T.H.

Carbolic Acid	... ...	½ grain.
Glyco-gelatine	... ...	18 grains.

Antiseptic and stimulant.

Perles of Carbolic Acid.

Globules of carbolic oil, containing one grain of Carbolic Acid in each. *Dose.*—1 or 2.

Pilula Acidi Carbolici.

Absolute Phenol	2 grains.
Glycerine	$\frac{1}{4}$ minim.
Powdered Althæa	3 grains.

Makes a good pill. *Dose.*—1.

Smelling Salts, Carbolised.

Absolute Phenol	24
Carbonate of Ammonium	16
Strong Solution of Ammonia	44
Oil of Lavender	$1\frac{1}{2}$
Camphor	3
Pine Sawdust (sifted)	*q.s.*

For coryza, hay fever, influenza, &c.

Suppositorium Acidi Carbolici.

Oil of Theobroma, melted	14 grains.
Absolute Phenol	1 grain.

The Suppository of Carbolic Acid with Soap (*Off.*) is almost useless, it dissolves so slowly.

Trochisci Acidi Carbolici, T.H.

One grain in each (nominally).

Unguentum Acidi Carbolici (*Off.*).

Carbolic Acid, 1; Soft Paraffin, 12; Hard Paraffin, 6. Melt and stir till cold.

Useful for smearing the hands previous to operations, examination of ulcers, &c.

Salve Mulls are spread with lead plaster and Carbolic Acid 10 per cent.

Vapor Acidi Carbolici, T. H.

20 drops of No. 1 liquid acid in a pint of water at 140° F. As a spray, 3 drops to an ounce of water.

Useful in pertussis.—B.M.J.ii/89,167.

Carbolic Soaps.

For household, toilet, and medical purposes, are prepared of various strengths up to 20 per cent.

Carbolic putty and Carbolic lac plaster have fallen into disuse.

Preservative Solution for Anatomical Subjects.

Carbolic acid 1 pound, Glycerine 4 pints, Methylated Spirit 4 pints. Used for injection into the aorta.

Wickersheimer's Preserving Liquid.

	For Injection.	For Immersion.
Arsenious Acid ...	16 grammes.	12 grammes.
Sodium Chloride ...	80 ,,	60 ,,
Potassium Sulphate ..	200 ,,	150 ,,
,, Nitrate ...	25 ,,	18 ,,
,, Carbonate	20 ,,	15 ,,
Water	10 litres.	10 litres.
Glycerine	4 ,,	4 ,,
Wood Naphtha ...	$\frac{3}{4}$,,	$\frac{3}{4}$,,

References.

For gradual development of the surgical uses of Carbolic Acid—LISTERISM—in the Antiseptic Treatment of wounds, compound fractures, abscesses, &c., *vide* L. i./68,326,357,387,507; L. ii./68,95,335,668; L. ii./75,515; L. ii./79,901; B.M.J. ii./68,53,101,461,515; B.M.J. i./69,301; B.M.J. ii./69,601; B.M.J. ii./70,243; B.M.J. i./71,30; B.M.J. ii./71,225; B.M.J. ii./75,769; B.M.J. ii./77,465,901; Dub. Jour. Med. Sci. Sept. 1875,229, Aug. 1879,97.

As at present used in surgery, the details are given in the Plymouth and Dublin Addresses.—B.M.J. ii./71,225; L. ii./79,901; Dub. Jour. Med. Sci. Aug. 1879,97; P.J. 1872,21,41.

Debate on.—L. ii./79,922; B.M.J. ii./79,906,1001.

SHORT DIRECTIONS FOR CARBOLIC DRESSING.—*a.* Before and during the operation.—(1) Carbolic Acid spray. Steam passing through a solution of 1 part of Carbolic Acid to 20 parts of water. (2) Sponges, hands of operators, &c., dipped in solution of Carbolic Acid: 1 in 20. (3) Instruments covered with oil, containing one-tenth part Carbolic Acid; some are dipped into or kept in watery solution: 1 in 20. (4) During intermission of spray, the wound is covered with a cloth dipped in Carbolic Acid solution: 1 in 20. *b.* After operation.—(1) A strip of lint soaked in an oily solution of Carbolic Acid (1 in 10), or a pure rubber drainage tube, similarly treated, is left hanging from the wound during the first (and, if necessary, following) days. Either of them is cut off flush with the edge of the wound. (2) Over this is placed the protective, in which a small hole is cut, corresponding with the end of the drainage tube. The protective consists of a layer of oiled silk, coated on both sides with copal varnish and afterwards brushed over with dextrin, which latter enables it to become uniformly moistened when dipped into solution of Carbolic Acid: 1 in 40. It is thus immersed just before being laid upon the wound, and is intended to prevent irritation, which would be caused by the actual contact of the antiseptic dressing with the wound. Then (3) seven layers of the antiseptic gauze. (4) Over this is applied the mackintosh, which is about 1 inch less in size than the gauze. (5) Then another layer of antiseptic gauze is applied; and, finally, (6) carbolised bandages, or elastic india-rubber web bandage round the edges of the dressings to insure that these are always in contact with the skin.—M.R. 1879,409 (modified).

Results of Antiseptic treatment of 100 cases of ovariotomy.—B.M.J. i./80,243.

Diluted sulphuric acid, 10 minims, every hour, an antidote for internal poisoning by Carbolic Acid.—L. i./80,702. Sulphate of Magnesium also useful.—Pr. xl.126

In poisoning by absorption from antiseptic dressings a lotion of 5 per cent. solution of sulphate of sodium is an efficient antidote.—Pr. xxiv.300.

Abstract of 172 cases of antiseptic abdominal sections. —L. i./81,101; B.M.J. i./81,122.

In poisoning by about 1½ ounces of common acid, apomorphine caused emesis with recovery.—L. ii./83,280.

In poisoning by Carbolic Acid, the circulation outlives the respiration; atropine counteracts its poisonous action in this respect.—L. ii./84, 418.

The use of Carbolic lotion keeps off flies and other insects.—L.i./87, 1297.

As Carbolic Acid coagulates albumen, it is sometimes employed in the strong liquid form as a caustic. Anointing with oil any part accidentally touched with it will, to a certain extent, neutralise its caustic action. Camphorated Carbolic Acid is used with advantage in ulcer of the os and cervix uteri, in chronic inflammation of the uterus and cervix with excoriation, and in chronic uterine catarrh.—R. One in 80 or more of water as a vaginal injection, in leucorrhœa, uterine ulceration, and cancer, cleanses, heals, disinfects, and allays pain. Glycerine of Carbolic Acid is useful in ringworm; and an ointment, 10 to 30 grains of the acid to an ounce of lard, or added to other ointments, is efficacious in various parasitic skin diseases. As an inhalation Carbolic Acid lessens and disinfects the over-abundant expectoration in bronchitis and gangreuous lung. The pastil, lozenge, or gargle 1 in 100 of water, is useful in sloughs of the mouth or throat.

Internally, in peppermint water, or better, the pilula acidi carbolici or perle is useful in flatulency with great distention, unaccompanied by pain; attention has been called (L. ii./87, 986) to its antipyretic action; it is often combined with rhubarb and extract of nux vomica —a minute quantity of glycerine added will make these combine to form a pill; but Carbolic Acid is more frequently administered as a sulphocarbolate.

Carbolic Acid as an antipyretic; 7 grains reduced temperature and checked diarrhœa in typhoid after quinine had failed; serviceable in hectic fever.—B.M.J. ii./88,976; Pr. xlii.57.

Successful in vomiting of pregnancy; 1 grain every 4 hours.—L.i./89,1121.

Successful use with quinine in typhoid—L.ii./89,1224.

Carbolic Acid is freely soluble in caustic alkaline solutions, and a French specialty, known as *Phenol Sodique*, is much used as an antiseptic solution by dentists. Its composition is about as follows:—

Liquor Sodii Carbolatis.

Phenol 8, Caustic Soda 4, Distilled Water 100.

Sulphocarbolates of Ammonium, Calcium, Iron, Magnesium, Potassium, Sodium, and Zinc have been used. The action of sulphuric acid on Carbolic Acid with heat produces sulphocarbolic acid.

Sodii Sulphocarbolas (*Off.*).

In white acicular crystals, like sulphate of magnesium. Soluble 1 in 5 of water. *Dose.*—10 to 15 grains in 1 ounce of water.

In flatulency immediately after meals, give dose prior to food; if the attack occurs some time after food give dose half an hour after meals.—R.

Use in cholera, and the dyspepsia of phthisis.—L. i./69,496, and i./68,144.

Internal use in diphtheria reduces temperature; must be continued some time to prevent relapse.—L. ii./83,448.

Zinci Sulphocarbolas (*Off.*).

Crystals in rectangular colourless plates. Soluble 1 in 2 of water. Useful in gonorrhœa and leucorrhœa; 2 or 3 grains in an ounce of water for injection.

Aseptol.—*Syn.* SULPHO-CARBOL; ORTHOXYPHENYL-SULPHUROUS ACID; ACIDUM SOZOLICUM.

Is prepared by mixing in chemically equivalent parts strong sulphuric and carbolic acids, removing the excess of sulphuric acid by carbonate of barium. It is a reddish, volatile, viscous liquid, neither corrosive nor irritant. It has an odour like carbolic acid. Sp. Gr. 1·45. It dissolves readily in water, alcohol, and glycerine; is more strongly antiseptic and disinfectant than either carbolic acid or salicylic acid; it combines directly with bases, forming salts. It has been given internally in doses larger than carbolic acid.—Rep. de Pharm. 6, 1884, *ex* Journal de Pharm. d'Anvers; Med. Rec. 1885,342; B.M.J. i./87,29.

A 33 per cent. **solution,** having Sp. Gr. 1·168, and a straw colour, is supplied in commerce. Is slightly caustic, and hardly at all toxic; recommended in preference to carbolic acid.—L. ii./85,588.

In gingivitis and pyorrhœa a 3 per cent. **solution** useful, reduces swelling, arrests flow of pus, and the gums return to their natural shape.—P. J. 1887,884, *ex* Brit. Jour. Dent. Sci.

Trichlorphenol.—*Syn.* TRICHLORPHENIC ACID.

A derivative of carbolic acid, in which 3 atoms of hydrogen are replaced by 3 of chlorine; has been used in St. Petersburg as a disinfectant; is said to be 25 times stronger than carbolic acid. It may be prepared by acting on carbolic acid with chlorinated lime. Is in white acicular crystals, with a disagreeable tarry odour, pungent taste, entirely volatilised by heat. Is very soluble in alcohol, ether, glycerine, fixed and volatile oils; also in hot vaseline, but it crystallizes out on cooling; it is insoluble in water, but forms soluble salts with bases. Those of calcium and magnesium have been used medically; the solid substance is but little irritating to the tissues, and the solutions not at all.

In purulent ophthalmia a 2 per cent. and weaker solutions of Trichlorphenate of Magnesium in 12 cases, with average of nine days' treatment, cures complete.—B.M.J. i./85,69.

ACIDUM CHLORACETICUM.

Chloracetic Acid.

A chlorine compound of acetic acid, in deliquescent white crystals, or more generally liquefied. It blisters the skin, but the preparation more frequently used is

Acidum Trichloraceticum.

In deliquescent rhombohedral coalescent crystals. This is a quick escharotic for venereal and other warts; useful in throat affections. Is a delicate test for albumen, specially suitable for urine analysis, as it does not precipitate peptones.—B.M.J.ii./89,1114.;i./90,363; L.i./90, 106.

ACIDUM CHROMICUM.

Chromic Acid (*Off*).—*Syn*. CHROMIC ANHYDRIDE.

In deliquescent, crimson, acicular or columnar crystals. It is odourless, and a powerful oxidising agent, decomposing alcohol, glycerine, &c., with evolution of heat. For use as a caustic, should be free from sulphuric acid, as then it does not spread over the surrounding tissue not requiring its action.

A watery solution—1 in 4, or stronger—is applied with a pointed glass rod to warts on genitals, to condylomata and lupus; and 1 in 40 to ulcerated gums, and syphilitic affections of tongue, pharynx, and larynx.—Pr. xxx.175. Fatal result from use of a solution of 100 grains in 1 ounce.—B.M.J. ii./89,487.

For sweating feet; after washing, paint with a 5 to 10 per cent. solution.—Pr.xliii,299; B.M.J.ii./89,1256.

Chromic Catgut Ligatures. Nos. 0, 1, 2, and 3. No. 0 is finest. (Lister).

Take of Catgut, on the stretch, 5 parts, and immerse for twelve hours in chromic acid 1 part, distilled water 100 parts; transfer, after removing the excess of liquid with a cloth, into 100 parts of sulphurous acid; in 12 hours take out and dry the gut, and keep it dry. Before using, place it along with the instruments for 15 minutes in 1 in 20 carbolic acid lotion.

Liquor Acidi Chromici (*Off.*).—1 to 3 of water.

Acidum Chrysophanicum.—See p. 107.

ACIDUM HYDROBROMICUM DILUTUM.

Diluted Hydrobromic Acid (*Off.*).

Dose.—15 to 50 minims; 60 minims = 10 grains of bromide of potassium.

An aqueous solution containing 10 per cent. by weight of gaseous hydrobromic acid. Sp. Gr. 1·077.

It is a colourless, very sour liquid, without odour. Evaporated to dryness, it leaves little or no residue. It is used to allay nervous excitability and exhaustion, as a solvent for quinine and preventing quinism, and as an alternative for bromide of potassium; 8 minims will dissolve 5 grains of sulphate of quinine diffused in a little water.

The acid formerly in use in medicine contained only about 8 per cent. of real acid. It was prepared by decomposing a solution of 5,188 grains of bromide of potassium in 4 pints of distilled water with 6,337 grains of tartaric acid, and after cooling to a low temperature decanting the supernatant acid solution for use; it thus contained some bromide of potassium as an impurity.—B.M.J. ii./76,42.

To obviate the headache of cinchonism and the fulness of the head felt when taking iron; for anæmia; also to remove the ill effects of excess of tea or alcohol; and to calm excited heart.—B.M.J. ii./76,42; P.J. 1877,715; Br. ii./76,356.

Letters on therapeutic uses.—B.M.J. i./77,480.

For tinnitus aurium and tickling hacking cough at night, in doses of 10 minims or more, is very useful.—B.M.J. ii./79,316.

Used as a sedative neurotic.—Pr. xx,447.

Used in headache, with flushing in the face and ringing in the ears, also in toothache.—L. i./82,975.

Insomnia relieved by 60 minim doses well diluted.—Pr. xxxiii.296.

In epilepsy, the dose should be full, as much as half an ounce well diluted (this is equal to 36 grains bromide of potassium); 3 ounces daily given to robust patients.—B.M.J. ii./85,587.

ACIDUM HYDROFLUORICUM.

Hydrofluoric Acid.—*Syn.* FLUORIC ACID.

An aqueous solution of hydrofluoric acid gas, obtained by passing the gas produced by the action of sulphuric acid on fluor spar into water. The impure acid thus prepared is redistilled for medicinal use. The pure redistilled acid contains about 30 per cent. of the gas. It emits suffocating fumes, and requires to be kept in gutta percha or leaden bottles.

Acidum Fluoricum Dilutum, T.H.

Dose.—15 to 60 minims.

Contains a half per cent. of the redistilled acid, and "is kept in glass bottles for use." Even thus diluted it quickly acts on the glass and becomes inert.

Goitre, 20 cases treated by diluted hydrofluoric acid in doses of 15 to 70 minims—17 recoveries and 3 failures.—L. i./81,448, 497, 537.

Diphtheria, 40 cases (only 3 died) treated by inhalations of hydrofluoric acid gas; produced by the action of sulphuric acid on fluor-spar heated in a leaden vessel. The apparatus requires refilling 5 times in 24 hours.—L. ii./82,543.

Inhalations of fluoric acid for Phthisis; in Paris patients have been made to inhale air which has been passed through a mixture of 150 parts of water and 50 parts of acid.—B.M.J. i./86,363; ii./86.572. Produced good results in 17 cases.—L. ii./88,581.

Thirty cases; does not cure, but accelerates amelioration.—B.M.J. i./89,559.

Five representative cases; decidedly hurtful in every case.—L. i./89,496.

Fluoride of Ammonium.

Suggested to diminish enlarged spleen in doses of 5 to 20 minims of solution, 4 grains in an ounce, after meals.—L. i./86,991; Pr. xxxviii.413. For Phthisis, inhalation from a 2 per 1,000 solution.—B.M.J. i./88,758.

Fluoride of Iron. Ferrous Fluoride.

A purplish white insoluble powder, possessing hæmatinic properties, is valuable for enlarged spleen. *Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain.

Fluoride of Quinine, striking success in relieving enlarged spleen and in rickets.—L. ii./84,559.

ACIDUM LACTICUM.

Lactic Acid (*Off.*).

Dose.—5 to 20 minims or more, well diluted.

A colourless, odourless, syrupy, sour liquid, obtained by the lactic fermentation of sugar; Sp. Gr. 1·21. It contains 75 to 80 per cent. of real acid; is miscible with water, alcohol, and ether, and coagulates milk and albumen. It is employed topically to destroy morbid growths, in diphtheria, &c., and internally as a stomachic tonic in combination with iron and lime, with excess of the acid, and for diabetes.

Acidum Lacticum Dilutum (*Off.*). Sp.Gr. 1·040.

Lactic Acid ...	...	...	3 ounces.
Distilled Water *q.s.* to		...	1 pint.

Dose.—½ to 2 drachms.

This diluted or *medicinal* Lactic Acid is too weak for making the preparations referred to in continental formulæ, and may have led to the discrepancies in the results obtained from Lactic Acid here, as compared with those recorded on the Continent in the treatment of diphtheria and diabetes.

Calcii Lactas. *Dose.*—1 to 5 grains.

An opaque, white, crystalline powder; unless freshly prepared not readily soluble in water.

Ferri Lactas, Lactate of Iron, Ferrous Lactate. *Dose.*—2 to 10 grains.

In greenish-white crystals, soluble in water; when taken internally is easily assimilated by the system.

Nebula Acidi Lactici, T.H.

Lactic Acid	...	...	1 drachm.
Distilled Water	...	...	15 drachms.

Of great use in diphtheria; appears to have the effect of dissolving the membranous exudation.

Syrup of Lactophosphate of Lime and **Syrup of Lactophosphate of Lime and Iron** are French specialities. The adult dose of them is 3 to 6 tablespoonfuls daily. The English manufactured syrups corresponding to them are given in 1 or 2 teaspoonful doses. The following formulæ are in use as substitutes:—

Syrupus Calcii Lactophosphatis.—N.R. xii.58.

Lactate of Calcium	(by weight)	5
Orange-flower Water	,, ...	10
Syrup ...	,, ...	80

Rub together, and add

Concentrated Phosphoric Acid	,, ...	5
Oil of Lemon mixed with	,, ...	1-30th
Rectified Spirit ...	,, ...	1-10th

Shake well to dissolve, then strain or filter.

Dose.—1 to 2 drachms.

Syrupus Calcii et Ferri Lactophosphatum.

Dose.—1 to 2 drachms.

May be made by dissolving a grain of lactate of iron in each fluid drachm of the syrup of lactophosphate of calcium.

Quininæ Lactas.—See p. 330.

Zinci Lactas.—See p. 380.

For croup, as lactic acid dissolves the fibrinous exudations; 15 to 20 minims in half an ounce of water used as spray with great success.—M.T.G. i./70,95.

Two cases of diphtheria treated by spray.—B.M.J. i./78,644.

Used as a spray inhalation after tracheotomy for croup.—M.T.G. ii./76,294.

In diabetes, 2 to 4 drachms in half a pint of water taken during the day, with exclusively animal diet, recommended by Cantani. Also given in dyspepsia.—Stillé and Maisch.

Two cases of diabetes treated by non-amylaceous diet and lactic acid (? diluted lactic acid), half an ounce daily for weeks; no benefit from treatment.—B.M.J. ii./72, 211; M.T.G. ii./72,205.

Lactic acid is a soporific in cases of general enfeeblement and debility following disease, best given as an enema, neutralised by bicarbonate of sodium, 5 to 20 grammes of each at bedtime.—M.T.G. ii./76,53.

In catarrh of bladder gave favourable results.—Pr. xxvii.212.

In phthisis, 10 minims twice a day, to allay cough and quench thirst, was useful.—B.M.J. ii./81,470.

In chronic catarrh of the bladder, lactic acid drinks arrest the ammoniacal decomposition of the urine, both inside as well as outside this organ, dissolve the salts which abound in it, and stop the development of microscopic organisms in it.—Pr. xxvii.213.

Discussion on the local use of lactic acid for tubercular laryngitis.—B.M.J. ii./85,949; Y.B. 1890,293.

Pure acid as a paint, or in a paste with kaolin, or as a 50 per cent. injection, destroys lupus, but causes prolonged pain.—Ed.M.J. 1888,677; Pr. xli.214.

ACIDUM MECONICUM.

Meconic Acid (*Off.*).

Dose.—?

An acid obtained from opium; is in nearly colourless micaceous crystals, readily soluble in alcohol, sparingly so in water. The aqueous solution is acid to test and taste, and is coloured red by neutral solution of perchloride of iron; this colour is discharged by *strong* hydrochloric acid. Its solution in water gives no precipitate with liquor iodi (indicating absence of alkaloids, morphine, codeine, &c.). It is official to prepare Liquor Morphinæ Bimeconatis (see p. 259).

Acidum Oleicum (*Off.*).—See Oleata, p. 271.

ACIDUM OSMICUM.

Osmic Acid.—*Syn.* TETROXIDE OF OSMIUM, PEROSMIC ACID, HYPEROSMIC ACID.

Is in large yellow crystals, which soften like wax. Its vapour is intolerably pungent, attacks the eyes and nostrils strongly and painfully. Its taste is acrid and burning, but it is not acid to test or taste. Soluble slowly about 1 in 50 of water. It is poisonous and a powerful oxidizing body. Separates iodine from iodide of potassium, and converts alcohol into aldehyde and acetic acid.

Osmiate of Potassium in 1 per cent. solution is injected to relieve sciatica, and has been given internally for epilepsy.—P.J. 1886,921.

In epilepsy, cured one case, relieved several.—L. ii./84, 209.

Liquor Acidi Osmici, 1 per cent. (in water).

Dose.—2 to 10 minims hypodermically.

Is much used for hardening animal tissues preparatory to mounting as microscopic objects; fat and medullary matter are blackened by it. By becoming reduced into metallic osmium, it blackens nearly everything it comes in contact with, and requires to be stored in glass bottles free from lead.

Injected hypodermically, has been used for neuralgia, and for strumous glands, sarcoma, and cancer.—L. ii./83,919; Pharm. Post, xvi.537; Pr. xxxi.207.

In sciatica, relief obtained from.—L. i./85,58; ii./87, 335. Useful in muscular rheumatism.—Pr. xli.198.

In neuralgias of severe type and long standing (note on)—5 cases cured, 2 alleviated, in 1 no success; no ill effects in any.—L. i./85,1096, L. ii./85,216.—Also at intervals of three days 5 minim doses successful, after 4 or 5 injections.—L. i./85,1189.

Injected into goitrous swellings twice a week, gave permanent relief.—Pr. xxxiv.48.

Acidum Phenylaceticum.—See p. 117.
Acidum Phenylpropionicum.—See p. 117.

ACIDUM PHOSPHORICUM CONCENTRATUM.

Concentrated Phosphoric Acid *(Off.)*.

Dose.—2 to 5 minims.

Hydrated Phosphoric Acid, with 33·7 per cent. of water. Officially, this may be made either by the nitric acid oxidation of phosphorus in the presence of water, concentrating the solution and adding water to adjust its Sp. Gr. to 1·5, or, by the atmospheric oxidation of phosphorus, and treating the product with water and a little nitric acid. If carefully prepared by the latter process, it can be obtained free from arsenic—a constant impurity in it if prepared by the other process. It contains 47·4 per cent. of phosphoric anhydride. Commercially, it is also prepared, having Sp. Gr. 1·75, and containing 64·3 per cent. of the anhydride. If of this strength, it may be reduced to B.P. strength by adding to each 3 parts by weight 1 part of distilled water.

Acidum Phosphoricum Dilutum (*Off.*). Sp. Gr. 1·08.

Dose.—10 to 30 minims.

Contains 10 per cent. of phosphoric anhydride. It is directed to be prepared by adding to—

Concentrated Phosphoric Acid	...	3 ounces (fluid).
Distilled Water, *q.s.* to ...	...	20 ounces.

By weight, to 4½ ounces of the acid add 17$\frac{1}{10}$ ounces of distilled water; or the same results may be obtained by diluting 4 parts, by weight, of acid Sp. Gr. 1·75 with 21 of distilled water.

It renders iron preparations compatible with astringent vegetable infusions.

ACIDUM PICRICUM.

Picric Acid.—*Syn.* CARBAZOTIC ACID; TRINITROPHENIC ACID. (See note, p. 395).

Dose.—¼ to 2 grains.

Is formed by dropping carbolic into fuming nitric acid, heating the mixture, and purifying by re-crystallizing. It is in yellow, shining, laminar crystals, which stain and give an intense deep yellow colour to water, in which it dissolves about 1 in 90, and 1 in 16 of rectified spirit. It is used for hardening tissues for microscopic examination, and as a urine test for albumen. (See p. 367.) It is intensely bitter. Its salts of ammonium and potassium have been used medicinally, and have been thought to act like quinine; the potassium salt decomposes and explodes if heated or percussed.

Liquor Acidi Picrici, 1 per cent. aqueous solution.

Dose.—½ to 3 drachms.

In ague, albuminuria, and some forms of headache it has been used, but it is apt to colour the skin, conjunctiva, and urine yellow.—B.M.J. ii./84,1109.

Successful use for erysipelas and inflammatory conditions of skin, as a pigment, 5 to 10 times a day.—B.M.J. i./89,678; L. i./89,702.

Picrate of Ammonium given for ague and malarial fevers. *Dose,* one-eighth to 1½ grains four or five times a day. L. i./87,366; P.J. 1887, 812.

ACIDUM PYROGALLICUM.

Pyrogallic Acid.—*Syn.* PYROGALLOL.

Dose.—½ to 1½ grains in aqueous solution, or in a pill with syrup,—this must be freshly prepared, and kept from the light.

In very light small white crystals prepared from gallic or tannic acid by carefully heating. It is without odour, tastes insipid, producing a sensation of coolness on the tongue. Soluble in 2½ parts of water, and in 10 parts of melted lard. It has great affinity for oxygen, and possesses antiseptic properties. It darkens the skin and hair, and is used in conjunction with a solution of nitrate of silver for blackening the hair. It is also used in photography.

It is given like gallic acid, but in much smaller doses, to check hæmoptysis, and used in the form of ointment, but must not be too freely applied, for psoriasis, on which it seems to have a specific influence.

Unguentum Acidi Pyrogallici, B.S.H.

Syn.—JARISCH'S OINTMENT.

Pyrogallic Acid	60 grains.
Lard	1 ounce.

Mix thoroughly. The acid will be in solution if the lard be melted. Used in cases of psoriasis.

Plaster Mulls are spread containing 42 per cent. of **Pyrogallic Acid.**

As an internal astringent for hæmoptysis in doses of a grain every half hour until it ceases, also prescribed with ergot for the same purpose, does not cause vomiting nor derange the stomach. — Dub. Jour. Med. Sci. 1878,470; Pr. xxii.124.

In psoriasis 10 per cent. ointment constantly applied is painful, but efficacious; the tubercle is destroyed, but the healthy skin is unaffected.—Pr. xxiii. 207,373.

Therapeutic uses and toxic effects. A patient suffering from universal psoriasis was poisoned by pyrogallic ointment applied to one half of his body, whilst to the other half chrysophanic acid ointment was applied for comparison. — M.R. 1880,49; Pr. xxv. 135.; B.M.J. i./81,1007; ii./88,976; L. ii./81,891.

Proved useful in Hebra's wards in the treatment of psoriasis and other cutaneous affections. 10 per cent.

ointment brushed in twice a day and parts covered with flannel.—Pr. xxv.378.

Cases of old standing psoriasis cured by use of 10 and 5 per cent. ointment.—L. i./81,576; Br. ii./79,lix.

Serpiginous sores become healthy when dusted with 1 to 4 of starch.—Pr. xxxiii.51.

In psoriasis, a 5 per cent. ointment is useful to limited surfaces, but not to inveterate patches.—L. ii./85,577.

Unna suggests the internal use of diluted nitro-hydrochloric acid to obviate the toxic effects of applications of pyrogallic acid.—Edin. Med. Jour., Oct. 1886, 377.

ACIDUM SALICYLICUM.

Salicylic Acid (*Off.*).

Dose.—5 to 30 grains, in cachets.

In light acicular crystals, odourless, the dust of it is irritating to the nostrils, taste sweetish, slightly soluble in cold water (1 in 760), soluble 1 in 4 of spirit, 1 in 2 of ether, 1 in 120 of olive oil, 1 in 100 of castor oil, and 1 in 200 of glycerine; soluble also in melted fats and vaseline; 20 grains of salicylic acid are rendered soluble in an ounce of water by the addition of 25 grains of borax; solutions of acetate of ammonium and acetate of potassium are recommended for use as solvents, but they only act by forming salicylates of the bases and setting free acetic acid, the odour of which becomes distinctly perceptible; citrate of potassium and phosphate of sodium act as solvents in a similar manner. An aqueous solution of the acid gives a deep violet colour with persalts of iron.

Salicylic acid may be prepared from salicin, from oils of winter-green or tea berry (*Gaultheria procumbens*), sweet birch (*Betula lenta*), *Andromeda Leschnaultii* (an Indian shrub), and other sources, but commercially it is largely prepared by heating carbolic acid with caustic soda in a suitable vessel and passing a stream of carbonic acid through it. Salicylate of sodium is formed, from which the salicylic acid is set free by hydrochloric acid. It requires purification by redissolving, dialysing, and crystallizing. The larger crystals obtained by dialysis, and resembling sulphate of quinine in appearance, are purer than the smaller crystals or the amorphous acid, which is often of a pink tint.

Commercially the acid prepared from oil of winter-green, the *natural* salicylic acid of Mr. J. Williams, is the purest. Oil of winter-green is an impure salicylate of methyl. When treated with caustic potash solution and the volatile matters distilled off, an impure salicylate of potassium remains; this is decomposed by hydrochloric acid, and the salicylic acid obtained purified by dissolving and crystallizing finally from weak spirit. It is in crystals resembling those of strychnine, and larger than those prepared from carbolic acid. Officially either may be used. In commerce the latter, even of good quality, is less pure than the other, but if purified the two are identical.—P.J. 1888,1000.

Salicylic acid prevents fermentative and putrefactive processes and is generally an antiseptic. It is largely used for surgical dressings, especially in cancerous affections. It has the advantage over carbolic acid that it has no smell and causes less local irritation, and the disadvantage that it is not volatile, and therefore does not affect the surrounding atmosphere sufficiently. It has been given for various febrile conditions, but particularly for acute rheumatism; for the latter disease salicin is much preferred.

Internally, its effects closely resemble those of quinine, even to the production of ringing in the ears and transient deafness. Large doses alone act as a direct poison on the heart and respiration. It is only partly destroyed in its passage through the organism, and reappears in the urine as late as fifty hours after it has been taken, partly as such and partly as salicyluric acid. Its curative properties are hence due (1) to this resistance to decomposition; (2) to its harmlessness even in gramme doses; and probably (3) to the direct arrest of certain fermentative processes, which we must regard as the exciting cause of various diseases.—Binz.

It has proved useful in the treatment of Menière's disease in small doses.—B.M.J. ii./77.477.

Capsules of Oil of Gaultheria.—10 minims in each. *Dose.*—1 three times a day or oftener.

The oil has similar properties to salicylic acid. 10 to 20 minims every 3 or 4 hours in rheumatism and sciatica. —Pr. xl. 466. With olive oil externally.—B.M.J. ii./89,347.

Death from poisoning by 1 ounce of this oil taken to procure abortion.—Pr. xl. 371.

Salicylic acid may be made into pills with glycerine of tragacanth, but the dose required being large, and being so insoluble in water, it is not often given in the pure state; it is generally given as the salt, salicylate of sodium.

Granular Effervescent Salicylic Acid contains 5 grains in 60 grains. *Dose.*—1 drachm or more.

Pulvis Salicylicus cum Talco, P.G.

Salicylic Acid, 3; Wheaten Starch, 10; Talc, 87.

Mix to a fine powder. Is used to correct the fetid or excessive perspiration of the feet.

Salicylated Camphor.—See p. 92.

Salicylic Collodion.—See p. 150.

Salicylic Cream.

Salicylic Acid, 2 drachms; Carbolic Acid, 1 drachm; Glycerine, 10 drachms.

Rub the salicylic acid to a powder, add the glycerine and carbolic acid, and mix.

Used as pigment when the skin is irritated by the discharge from wounds, &c., under antiseptic dressings.

Salicylic Plaster Mulls.

Contain respectively 38 and 50 per cent. of acid; used successfully to remove thickened epidermis.—L.ii./83,951; B.M.J. ii./83,1071; B.M.J. i./84,602. Others are combined with about 50 per cent. of **Creasote**, or **Extract of Cannabis Indica**, 15 per cent.—L. ii./86, 574; B.M.J. ii./87,447,459,472.

Salicylic Silk (McGill).

Silk waste, teased and impregnated with 10 per cent. of salicylic acid and a little glycerine. In 1lb. boxes.

Used as a surgical dressing.—L. i./81,9; L. ii./81, 623,671.

Salicylic Suet.

Salicylic acid 1, dissolved in melted mutton suet 49. In German army, used for foot sores, sores from riding, &c.

Salicylic Wool.

Cotton wool impregnated with 4 per cent. and 10 per cent. of salicylic acid, and the same quantity of glycerine to make the acid adhere to the wool.

Salicifrice.—A special preparation.

An antiseptic tooth-paste, having a saponaceous basis and containing salicylic acid. In use it is very refreshing to the mouth and palate.

Unguentum Acidi Salicylici (*Off.*).

Soft Paraffin...	18
Hard Paraffin	9
Melt and add—	
Salicylic Acid	1

Stir until cold. Some prefer it with the acid not dissolved.

Iodo-Salicylic and Di-Iodo-Salicylic Acids.—See p. 226.

Bismuthi Salicylas.—See p. 78.

Ferri Salicylas. *Dose.*—3 to 10 grains, in pills.

In commerce is found as a purplish brown powder, slightly soluble in water; given as an anti-arthritic tonic and for tonsillitis.

Found useful, on account of its antiseptic and astringent properties and its slight solubility as an application to foul wounds with a tendency to bleeding.—Edin. Med. Jour. 1877,707.

Diarrhœa after weaning, with offensive motions, following formula recommended:—Sulphate of iron and salicylate of sodium, of each, 20 grains; glycerine, 3 drachms; water to 3 ounces. *Dose*, 1 drachm every hour.—B.M.J. ii./86,107.

Quininæ Salicylas.—See p. 330.

Sodii Salicylas (*Off.*).

Dose.—10 to 30 grains in water—the taste may be disguised by the addition of a drachm of liquid extract of liquorice, or syrup of ginger—or in cachets.

In odourless, white, crystalline scales, or, if prepared from the natural acid. in definite shining silky tabular crystals, soluble in its own weight of water, soluble also in rectified spirit. It possesses an unpleasant sweetish taste, but therapeutically it is more pleasant to take and more rapidly absorbed than the free acid. As it is more difficult to judge of the quality of salicylate of sodium, than of the acid, the following solution containing 10 grains of the salt in one drachm is found convenient for dispensing.

Solutio Sodii Salicylatis (1 in 6).

Salicylic acid, pure, crystallized	392 grains.
Bicarbonate of Sodium ...	240 ,,
Distilled Water	4 ounces.

Mix and when the effervescence ceases filter and add distilled water over the filter *q.s.* to make the filtrate measure six ounces.

Dose.—1 to 3 drachms = 10 to 30 grains.

Salicylate of Sodium has a stronger action on certain forms of bacteria than carbolic acid, quinine, boric acid, and alcohol, and one which is scarcely a third less powerful than that of free salicylic acid (Dragendorff and Bucholtz in Binz). It is not compatible with free ammonia, carbonate of ammonium, or aromatic spirit of ammonia; if any of these be added to its aqueous solution, the mixture in a short time turns brown; it will do this irrespective of the source of the salicylic acid, whether natural or artificial.

Granular Effervescent Salicylate of Sodium.

6 grains in a drachm. *Dose.*—1 drachm or more.

Sodii Di-thio-salicylas, Di-thio-salicylate of Sodium.

Dose.—3 grains morning and evening, or repeated doses during an hour at night.

The sodium salt of an acid formed by the action of sulphur chloride on salicylic acid, and having the composition of two molecules of salicylic acid linked by two atoms of sulphur.

It is a greyish or yellowish-white powder, soluble 1 in 1 of water.

It promptly reduces temperature in articular and gonorrhœal rheumatism; acts more powerfully in small doses than salicylic acid, and is free from its objectionable sequelæ.—L. ii./89,347; P.J. 1889,1049; Y.B. 1890,312.

Salicinum, Salicin (*Off.*).

Dose.—5 to 30 grains in aqueous solution, taste may be covered with liquid extract of liquorice, or small dose in pill with glycerine of tragacanth.

A neutral principle in white tabular scaly or acicular crystals without odour, taste moderately bitter. Soluble 1 in 20 parts of cold water, 1 in 50 of spirit, but not soluble in ether. Obtained commercially from various species of willow bark, contained also in poplar bark and in flower buds of meadow sweet.

Salicin is used in small doses, often combined with valerianates and compound rhubarb pill, as a mild tonic. In large doses it has a specific action over acute rheumatism. It is not so depressing in its action as salicylic acid. Under the influence of a ferment, *e.g.* saliva, it is decomposed with absorption of water into saligenin and sugar, and saligenin is afterwards readily oxidised into salicylic acid.—Binz. It is not adapted for use as an external antiseptic. Is used for ague.

Salol. *Dose.*—4 to 30 grains, in cachets or suspended in milk. (Is patented.)

Phenyl Ether of Salicylic Acid.—It is in small white crystals, like bromide of ammonium, with a faint yellow tint; has a slight aromatic wintergreen odour; is almost tasteless and insoluble in water, but soluble in alcohol, ether, fixed oils, and a trace in glycerine. It possesses antiseptic and antipyretic properties, and internally can be used advantageously in place of salicylate of sodium, where this is badly tolerated. In the system it splits up into its component parts, both being found in the urine, which becomes very dark. —P.J. 1886,1005. After an overdose, the urine is dark when passed.—Th. Gaz., Oct. 1888,692.

Passes unaltered through stomach, and thus does not disorder the digestion.—P.J.1887,527.

It is split up into its phenyl and salicyl elements by the pancreatic juice in the duodenum.—L.ii./86,31.

Useful in sciatica; 8 grains in the evening and 16 grains at bedtime induced sleep.—L.ii./87,880.

Is a good antiseptic, unirritating; heals ulcers. Use a 3 per cent. solution as a gargle.—B.M.J. ii./86.433.

Its chief value is in acute rheumatism.—L. i./88,867. Is decidedly efficacious, but owes its activity to the salicylic acid it contains.—L. i./88,1072.

Rheumatic polyarthritis, relieved by half a drachm three times a day.—B.M.J.i./87, 793; L.i./87,644.

Summer diarrhœa, successful in.—Pr. xl.465. Also diarrhœa of children, Pr. xliv.60.

Notes on its therapeutic value.—B.M.J.ii./87.1397.

Earache and neuralgia of the eyes relieved by ten grain doses.—Ed.M.J.1888,953.

Five-grain doses used in typhoid with good result, but caused herpes, which disappeared on discontinuance. —Pr. xl.373, ex N. Y. Med. Rec.

Salol cum Camphora, **Salol Camphor.**

Salol 3, Camphor 2, heated together combine to form a viscid liquid, which has been used as an antiseptic in place of iodoform.—P.J.1889,862,62.

Betol. See Naphthol, p. 263.

Cresol Salicylas.—Para-Cresol Salicylate.

Syn.—CRESALOL.

Dose—?

The para-phenylic ether of cresylic acid, in white granular crystals with the odour and antiseptic properties of salol. Insoluble in water, freely soluble in spirit. Useful in acute rheumatism, and suggested also for cholera.—L. i./89,305; P.J.1889,701.

References to Salicylic Acid as an Antiseptic.

Spoken of as a much more powerful antiferment than carbolic acid. Forms a valuable antiseptic ointment. An application of salicylic acid and oil removes the fœtor, and forms a comforting application to ulcerated cancer of the breast.—L. ii./74,785; L. ii./75,431, 562,871.

Use in surgical dressings.—B.M.J. ii./75,510,769.

Editorial note on antiseptic properties. It is peculiarly adapted as a toilet requisite for dentifrices, and as a preventive of the disagreeable odour caused by fetid perspiration, without producing any injurious effects.—B.M.J. i. /75,252.

As an ointment for eczema and acne.—L. ii./75,870; Pr xlii.58. In ringworm.—L. i./80,482.

Used as snuff in hay-fever, acted like magic.—B.M.J. ii./78,101.

Concentrated solution successful as a pigment for profuse uterine hæmorrhage.—L. ii/88,341.

Salicylic acid, strychnine, morphine, narcotine, and brucine are all without any effect upon bacteria, even when quite large quantities are put into the solution containing germs, while phenol, spongy iron, alcohol, and permanganate of potassium destroyed bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258; P.J. 1881,765.

References to Salicylic Acid, the Salicylates, and Salicin given internally.

When given boldly in one large dose of one drachm, or in several smaller doses of 20 to 30 grains, to a healthy person, these substances produce results similar to those of large doses of quinine, but small doses are soon tolerated and the physiological effects are not obtained—they cause headache, suffusion of the eyes, flushed face, slight deafness, muscular trembling and weakness, hurried respiration, weak and quickened pulse and render the perspiration and urine less acid (?). It is considered that Salicin is converted into Salicylic Acid in the body, and as such produces the effects. In health, the effect on temperature is but little marked and at times variable.—R.

In disease, they lower the temperature, and have a decided action on pyrexia. They have been employed in most febrile diseases, but it is in acute rheumatism that their chief power is felt. For this disease Salicin is preferred. Large doses do great good. 30 grains every 2 hours, or hourly if required, soon produce a marked effect. These remedies should be continued in smaller doses for ten days after the temperature has become normal.—R.

Salicin, specially recommended for acute rheumatism in doses of 10 to 30 grains every 2, 3, or 4 hours.—L. i./76,342,383.

Also the same, and advised to continue its use for a fortnight after the decline of the disease; it is a pleasant bitter, and may be conveniently prescribed with syrup of orange-peel. Hardly ever produces the unpleasant effects which are seen from taking salicylic acid.—B.M.J. i./76,627.

General recommendations for its use in rheumatic fever.—L. ii./76,601,677; L. i./79,875; L. ii./79,79.

For a comparison of the salicylic acid treatment of acute rheumatism with that by alkalies.—L. i./80,201, 244,281.

Special advantages of salicin over salicylic acid for rheumatism.—B.M.J. i./81,229.

In rheumatism 40 grains of salicylate of sodium, or 30 grains of salicylic acid every 2 or 3 hours. Note—5 grains of sodium salt are equal to 4 grains of acid.—L. ii./79,905.

Salicylic acid, whilst of doubtful use in chronic rheumatism, is a rapid and radical remedy for the acute form; given in doses of 7½ to 15 grains.—B.M.J. i./76,569.

Whether the acid or its salts be given, they act as a powerful antipyretic. A dose of 5 grammes produces a rapid fall of temperature and perspiration; in acute inflammations the local mischief is not affected by it, but in acute rheumatism the articular pains are dispersed, and a rapid cure often effected.—Pr. xvi.208.

Whilst of most use in acute rheumatism, it has resemblances in action to quinine, and combats malarial poisoning.—Pr. xi.,449.

For cases of rheumatism successfully treated by the acid.—L. i./76,530,737,840 ; L. ii./76,11,254,681,771.

For a detailed statement of its effects on healthy subject, especially as regards temperature.—Pr. xxiii.184.

Typhoid cases treated with salicylate of sodium, and recommended for use as an antipyretic.—L. i./81,409,455.

Salicylate of sodium useful in typhoid.—L. ii./79,905.

Remarks on the danger attending the use of salicylic acid in acute rheumatism.—L. i./80,327.

Delirium in cases of acute rheumatism, treated by salicylate of sodium.—B.M.J. i./81,159,337.

Salicylates of sodium and ammonium, useful in treating acute zymotic diseases, and mixed with honey or made into lozenges for diphtheritic attacks in the throat.—B.M.J. i./79,67.

Acute rheumatism treated by salicylates.—L. ii./81, 1030,1089,1119,1120 ; L. i./82,9,54,57,134,135,138 ; B.M.J. i./82,46,459.

Statistics of above treatment in 39 hospitals; while salicylates are said frequently to produce bad effects, none such are attributed to salicin.—L. i./82,57.

Thesis on the salicylate treatment of rheumatism; duration of the acute stage reduced to 3 or 4 days. Convalescence is more rapid, and tendency to heart complication probably less than from any other treatment.—Pr. xxviii.321,401.

Case of sudden death after three doses of fifteen grains of salicylate.—L. ii./86,1174.

In acute tonsillitis, 10 grains every three hours relieve the distressing symptoms.—B.M.J. i./87,1253 ; Pr. xl. 260, 351.

Salicylate of sodium removes the fœtor of urine in paraplegia.—L. ii./86,853.

Discussion on the dosage of salicylates.—B.M.J. ii./87, 1339. Report on various salicylates.—Th. Gaz., Nov. 1888,734.

Maclagan on the failure of the Salicyl compounds in acute rheumatism due to insufficient doses.—L. ii./87,345.

Special report on the failures in the salicylic treatment of rheumatism.—B.M.J. i./88,395.

Large doses of the salicylates relieve neuralgia.—Pr. xxxix. 49. Useful in diarrhœa.—B.M.J. ii./88,521.

Note on the effects of salicylic acid upon headaches associated with increased excretion of uric acid.—L. i./88, 70; B.M.J. i./88,905.

Myosis followed 20-grain doses of sodium salicylate given every two hours in rheumatism.—Pr. xlii.16; P.J. 1889,608.

Solution of salicylic acid, 1 in 500, useful as gargle and mouthwash in diphtheria.—B.M.J. i/89,802; Pr. xli.138. Similarly a solution of the sodium salt.—B.M.J. i/89,885.

Salicylic acid, 20 grains, in solution of acetate of ammonium, 3 or 4 times a day, useful to prevent cough following coryza.—B.M.J. ii /89, 1037.

Salicylate of sodium useful in vertigo with auditory nerve-symptoms.—L. i. 90,181.

Experimental research on comparative action of natural and artificial salicylates of sodium; artificial condemned, but impure used.—B.M.J. ii/89, 1208, 1315; i/90,59. Discussion on use in rheumatism.—L. i/90, 348; B.M.J. i/90,359. Editorial.—B.M.J. i./90,492.

Salicylate of sodium of great use in influenza; the best diaphoretic; salol recommended if this disagrees. L i./90, 167,187,267.

Acidum Scleroticum.—See Ergota, p. 170.

ACIDUM SULPHUROSUM.

Sulphurous Acid (*Off.*).

Dose.—½ to 2 drachms.

A colourless liquid, having a pungent sulphurous odour, and containing 5 per cent. of sulphurous anhydride. Sp. Gr. 1·027. It is liable to oxidise into sulphuric acid if long kept, and when used for throat affections the presence of more than traces of sulphuric acid is objectionable. It may be freed from this by addition of sulphite of barium as long as a precipitate is thrown down and then decanted from the sediment (sulphate of barium). An alcoholic solution can be made much stronger and is more stable than an aqueous one.

Sulphurous acid is used as a deoxidising antiseptic and disinfectant. It arrests fermentation by destroying the vitality of the organisms producing it. It is often used in the gaseous condition, for disinfecting rooms in which patients suffering from infectious fevers have been nursed. It may be produced by igniting sulphur (1 pound to each 1,000 cubic feet), placed in a strong earthen vessel, which for safety should be supported over a bucket of water, on a pair of tongs laid across it. After the chimney and all crevices have been closed, and paper pasted over apertures in the windows, &c., the sulphur may be ignited by being moistened with methylated spirit and lighted with a match; the sulphur catches readily. The door should then be shut, pasted up with paper and left for six hours. The air should be rendered unfit for respiration, metals exposed in the room should be greased, and coloured materials as much as possible removed, as the gas possesses bleaching properties on some substances.

Sulphurous acid, the solution, is applied externally as a lotion—one part to two or more of water and sometimes a little glycerine added—for parasitic affections such as chloasma, ringworm, pruritus, and thrush, with very good results. Undiluted it is sprayed into the throat for tonsillitis and asthma, or used as an inhalation, a teaspoonful to a pint of cold water. Internally, for gastric fermentation accompanied by sarcinæ it is given with success in its combinations, as

Sodii Sulphis, Sulphite of Sodium (*Off.*).
Dose.—5 to 20 grains; or as

Hyposulphite of Sodium. *Syn.*—THIOSULPHATE OF SODIUM. *Dose.*—10 to 60 grains.

This is also used as a lotion, 1 in 10 for chloasma, ringworm, &c. It may be made to evolve sulphurous acid gas as in the following lotion:—

Hyposulphite of Sodium, 3 ounces; Diluted Sulphuric Acid, ½ ounce; Water, 16 ounces.

References to Sulphurous Acid.

As a paint for the throat and as a spray in aphthæ and diphtheria and as a fumigation, and its use in the cattle plague.—M.T.G. i./67,492.

Used successfully as a spray for sore-throat, chronic bronchitis, &c.—M.T.G. i./67,549.

In gonorrhœa 1 part to 15 of water injected 3 times a day was effectual.—L. i./81,205.

Sulphurous acid has little effect on bacteria; after 15 days meat solution containing them, and impregnated with the gas, was bleached, but they were still alive in the strongly acid solution.—Jour. Chem. Soc. xxxix.252, P.J. 1881,765.

A solution 1 in 2 of water, as an antiseptic, is useful in removing fœtor of cancerous sores.—B.M.J., i./83,1281.

In diphtheria, full and frequent doses of sulphurous acid every 1 or two hours.—B.M.J., ii./87, 773.

Fumigation most efficacious in whooping-cough.—Pr. xli,120.

Sulphocarbol.—See Aseptol, p. 15.

Acidum Trichloraceticum.—See p. 16.

ACONITINA (*Off.*).

Aconitine.

Dose.—$\frac{1}{240}$ to $\frac{1}{60}$ grain may be carefully increased up to $\frac{1}{24}$ grain.

An alkaloid obtained from *Aconitum Napellus*, and probably other species of aconite. In white, generally amorphous, irregular lumps, may be with difficulty obtained in acicular crystals, freely soluble in dilute acids and rectified spirit, soluble also in ether and according to B.P. 1 in 150 of cold water, but this does not apply to the Aconitine of British makers, which requires upwards of 4000 parts of water to form a solution at the ordinary temperature. The English is preferred, next the French, and then the German. English Aconitine (Morson's), according to Flückiger, is supposed to be identical with the Pseud-Aconitine obtained from Bish or Nepaul aconite root, the produce principally of *Aconitum ferox*. Another principle is contained in both *Aconitum Napellus* and *Aconitum ferox*, named by Hübschmann Napellin, but from the two sources the Napellin is not identical.—L. i./82.325.

The crystallized Aconitine obtained by Duquesnel's process from *Aconitum Napellus* is said to be a very potent preparation.

Aconitine is a violent poison, and its action is uncertain, unless that of the same maker be always employed; and, although much has been written of late on it from a chemical point of view, there are still doubts as to which is the more active physiologically, Aconitine or Pseud-Aconitine obtained from *A. ferox*. Aconitine melts at 183° to 184° C.; Pseud-Aconitine at 104° to 105° C.—P.J. 1880,2. When rubbed on the skin, Aconitine causes a tingling sensation, followed by prolonged numbness. It may be administered in the form of pill, carefully rubbed down with a little sugar of milk, and made into a mass with glycerine of tragacanth. The best alkaloid is a somewhat costly preparation.

Aconitum Ferox, A. Heterophyllum and **A. Japonicum.**—See p. 382.

Preparations.

Injectio Aconitinæ Hypodermica.

Aconitine (English)	1 grain.
Diluted Sulphuric Acid ...	*q.s.*
Distilled Water to	½ ounce.

Dilute one drop of the acid with about one drachm of water, and carefully add drop by drop to the aconitine, avoiding excess, till it is dissolved, make up the measure to half an ounce with water.

Dose.—1 to 4 minims.

Oleatum Aconitinæ.

Aconitine	2 grains.
Oleic Acid	100 minims.

Dissolve; may be perfumed—is readily absorbed when painted on for neuralgic affections.

Unguentum Aconitinæ (*Off.*).

Aconitine	8 grains.
Rectified Spirit	½ drachm.

Dissolve, and add

Lard...	1 ounce.

Mix thoroughly. Should be freshly prepared. A piece the size of a bean is gently rubbed in for facial neuralgia, care being taken not to apply where the skin is broken, or to touch the mucous membranes.

Other Preparations of Aconite.

Chloroformum Aconiti, B.P.C.

Aconite Root, bruised	20 ounces.
Strong Solution of Ammonia ...	1½ ,,
Distilled Water	20 ,,
Chloroform	q.s.

Macerate the aconite with the ammonia and water, previously mixed, for 4 hours, dry and reduce to No. 40 powder. Macerate for 24 hours with 20 ounces of chloroform in a percolator provided with a tap, then percolate slowly, adding more chloroform until 30 ounces are obtained.

Useful application for neuralgia, mixes with oils and liniments.

Emplastrum Aconiti in rubber combination, sheets 7 in. by 5 in., rolls 7 in. by 36 in.

Emplastrum Aconiti et Belladonnæ is also prepared in sheets and rolls as above.

Extractum Aconiti (*Off.*)
(from fresh leaves and flowering tops).
Dose.—$\frac{1}{4}$ to 1 grain.

Extractum Aconiti Radicis Alcoholicum, Alcoholic Extract of Aconite Root (Fleming).
Dose.—$\frac{1}{10}$ to $\frac{1}{3}$ grain.
Must be carefully distinguished from the preceding.

Linimentum Aconiti (*Off.*).
$1\frac{1}{2} = 1$ of root; useful in neuralgia.

Pastillus Aconiti.—See p. 196.

Pilula Aconiti. Root, in powder, $\frac{1}{8}$ grain in each.
Dose.—1 hourly = 1 minim of tincture.

Tinctura Aconiti (*Off.*).
1 of dried root in 8 of rectified spirit.

Dose.—As a febrifuge 1 minim every 10 minutes or quarter of an hour, for an hour, then repeat dose every hour till skin acts well and temperature is reduced.—L. i./69,44. In chronic cases 5 to 10 minims less frequently.

Fleming's and **Turnbull's Tinctures of Aconite** are about five times the strength of the above. They are sometimes ordered for external use, and were given in doses of 1 to 5 minims.

Aconitine paralyzes all nitrogenous tissues and affects all the tissues of the heart, first its ganglia, next its nerves, and lastly its muscular substance.—R. It acts therapeutically as a depressent, calmative, and diaphoretic. Externally the ointment of aconitine, or aconite liniment painted on either in a pure condition or mixed with belladonna or chloroform liniment, immediately relieves neuralgia, sciatica, and many forms of rheumatism. When effectual they cause a sensation of tingling, and subsequent numbness of the parts to which they are applied. Internally, tincture of aconite is given to control inflammation and to subdue the accompanying fever, with great success, especially if given in the early stages of the disease, in acute sore-throat, tonsillitis, catarrh, scarlatina, gonorrhœa, erysipelas, and other febrile affections, in doses of one minim every hour, it reduces pulse and temperature and causes free diaphoresis.

Use of aconite in all forms of neuralgia, diseases of the heart, rheumatism, and erysipelas.—Fleming on Aconite.

Antagonism of aconitine to digitalin. — B.M.J. Reports 1877,89.

Aconitine of the greatest use in neuralgia of the fifth pair of nerves; dose $\frac{1}{140}$ grain up to $\frac{1}{12}$ grain (? not English.)—Pr. xxii.,457; Br. ii./79,xxiii.

Aconitine paralyses peripheral sensory nerves, and augments power of motor nerves.—Pr. xx.185.

Physiological action.—Pr. xx.100; Pr. xxii.108.

Hypodermic injection of $\frac{1}{200}$ to $\frac{1}{120}$ grain, useful in trigeminal neuralgia.—Pr. xxiv.136.

Also, $\frac{1}{64}$ grain injected, and dose carefully increased, produces rapid cure in neuralgia.—Pr. xxiv.205.

Fleming's tincture of aconite, one minim every hour in relapsing fever, reduces temperature and pulse, cleans tongue, induces sleep, increases quantity of urine, and promotes perspiration. Superior to Warburg's tincture.—Pr. xxvi.187.

Crystallized aconitine recommended for internal use. The German amorphous aconitine is less powerful than the French, of which $\frac{1}{240}$ grain doses 4 times a day caused alarming effects.—L. ii./80,778.

Note on the variations of strength of different samples of aconitine. Pseud-aconitine acts more on the respiratory system, aconitine more on the heart.—B.M.J. ii./81, 523; Trans. Med. Congress, 1881,i.472.

Letter on the varieties of commercial aconitine, noting the extreme variation of their therapeutic power and poisonous properties, cases of poisoning produced by the substitution of one maker's aconitine for another's, referred to.—B.M.J. i./82,555; L. ii./87,1068.

Investigation of Dutch case of poisoning by aconitine. —P.J. 1882,683.

Note on therapeutics of Aconitum ferox.—B.M.J. ii./84,1275.

Death following 2 drachm dose of linimentum aconiti in a drunken adult.—B.M.J. ii/86,680.

Actæa.—See Cimicifuga, p. 110.

ÆTHER.

Ether (*Off.*).—*Syn.* ÆTHER SULPHURICUS; SULPHURIC ETHER; OXIDE OF ETHYL.

Dose.—20 to 60 minims (best given as spirit of ether, which mixes with water).

Chemically ether is alcohol less a molecule of water. Its properties and general medical uses are so well known as to need little description here. Besides its ordinary medicinal uses, ether is now largely employed for producing general anæsthesia, as well as being applied as a local anæsthetic in the form of spray to freeze the part. In causing general anæsthesia ether produces less depression on the heart than either dichloride of ethidene or chloroform, but its use is unpleasant both to the patient and to the operators. Its suffocating action on the patient, if suffering from any lung or bronchial affection, is very irritating, and has proved fatal. Care must be taken not to employ it near a light, as its vapour is very inflammable, and it has to be used freely. *Vide* letters and report on anæsthetics, in which ether is preferred to chloroform.—B.M.J. ii./75,726; B.M.J. ii./80,760, 776,970; B.M.J. i./82,247.

Anæsthesia by vapour or spray of ether introduced into the rectum.—Pr. xxxiii.58; M.R./84,199; B.M.J. ii./85,659. In dental surgery, L.ii./88,454.

Rectal etherisation used successfully for cholera, hoping to destroy the vitality of bacilli, 15 cases—2 convalescent within 24 hours, 1 died, 12 progressed favourably.—L. ii./85,588.

Revelations during anæsthesia from ether.—L. ii./81,9. Action on the frog's heart, induces very little paralysing effect.—Pr. xxvii.13.

Hypodermically, 20 minims acted as a successful restorative in typhoid fever.—L. ii./83,313. For collapse, hypodermic dose may be a drachm.—L. ii./83,395.

30 minims hypod. for collapse from post partum hæmorrhage, rallied in a few minutes.—L. ii./83,348,388.

Inhalation of ether affects the constrictor muscles of the larynx.—B.M.J. ii./86,405.

Anæsthesia from ether, apart from operation, produces chill, depression, and reduction of temperature.—B.M.J. i./88,1177.

Commercial Varieties in General Use.

(1) *From pure Rectified Spirit.*

Æther (*Off.*) Sp. Gr. 0.735.

Ordinary medicinal ether contains a little spirit and water. It is sometimes inhaled for producing general anæsthesia, but is not so suitable for this purpose as

Æther Purus (*Off.*). Sp. Gr. 0·720; **Absolute Ether.**

Should produce no blue colour when shaken with starch paste and one-fourth its bulk of solution of iodide of potassium. Test defective, few samples stand it unless the iodide solution be weaker than B.P.—P.J. 1886,661; 1887,841.

This is best adapted for producing general anæsthesia. It is a pure and definite substance. It may also be used for local anæsthesia.

(2) *From Methylated Spirit.*

Absolute Ether, Methylated, Sp. Gr. 0·717 to 0·719.

Contains a little methylic ether, and is specially adapted for producing local anæsthesia, as it boils under 80° F. It is not adapted for producing general anæsthesia, being too volatile.

Rectified Ether, from Methylated Spirit, Sp. Gr. 0·720.

Methylated ether, well washed to free it from methylic ether, purified and re-distilled. It is well adapted for producing general anæsthesia. Is considered safer than that from pure spirit.—L. i./82,1072.

Methylated Ether, Sp. Gr. 0·730.

Is adapted for common purposes, ice machines, &c.

Not fit for medical use. For photography a purer preparation, Sp. Gr. 0·725, is used.

Preparations.

Æther Phosphoratus.—See p. 294.

Collodium.—See p. 149.

As Ether is a direct stimulant to the pancreas, increases its secretion, and assists in the emulsification of fats, it is valuable in the treatment of consumptives, and is used to form:—

Oleum Morrhuæ cum Æthere.

Cod Liver Oil	2 drachms.
Pure Ether	10 minims.

For a dose; ether may be increased to 15 or 20 minims.—B.M.J. i./68,148,543,570.

Its usefulness in phthisis; can be easily digested.—L. i./70,380; L. i./79,859.

American report on its advantages.—L. ii./78,413; M.T.G. ii./79,536.

Compound Anæsthetic Ether for local anæsthesia.

Hydride of Amyl 1 part, Rectified Ether 4 parts (*sic*).—M.T.G. ii./71,374. A modification of this was subsequently published as,—

Hydramyl-Ether for general as well as local anæsthesia.

Pure Hydramyl (Hydride of Amyl) and Absolute Ether, of each equal portions (*sic*).—M.T.G. ii./71,492.

Perles of Ether, 3 minims in each. *Dose.*—1 to 4.

Perles of Ether and Turpentine. *Dose.*—1 to 4.

Useful to relieve pain of gallstones.

Spiritus Ætheris (*Off.*).

Ether, Sp. Gr. 0·735	1 ounce.
Rectified Spirit	2 ounces.

Dose.—30 to 90 minims.

The older formula is often ordered, viz.:—

Spiritus Ætheris Compositus (*Off.*).

Ether	8 ounces.
Rectified Spirit	16 ,,
Oil of Wine (freshly prepared)*	3 drachms.

Dose.—30 to 90 minims.

This is directed to be prepared by gradually mixing 36 ounces of sulphuric acid with 40 ounces of rectified spirit, letting the mixture stand for 24 hours, and then distilling it

Syn.—Hoffmann's Anodyne, but the simple Spirit of Ether is now called Hoffmann's Anodyne in Continental Pharmacopœias.

Spiritus Ætheris Nitrosi (*Off.*) is a solution of ethereal compounds containing nitrite of ethyl and paraldehyde. *Dose.*—½ to 2 drachms.

Æthyl Nitris. Nitrite of Ethyl. (True.)

Dissolve nitrite of sodium, 34 grammes, in water to 120 c.c.; cool below 0° C., and surround vessel with a mixture of ice and salt. Add 13·5 c.c. sulphuric acid to a mixture of 32 c.c. of each, rectified spirit and water, dilute this further to 120 c.c., cool it to 0° C., and pour it very slowly through a thistle-funnel, stirring constantly, to the bottom of the nitrite solution, when a pale yellow layer of ethyl nitrite will rise to the top. This, if decanted and agitated with water in a separator, and afterwards with anhydrous carbonate of potassium (in contact with which it should also be preserved), yields pure nitrite of ethyl. It boils at 17·5° C. (63·5° F.). Suitable for inhalation only. A 2 per cent. solution of this in absolute alcohol, with 5 per cent. of glycerine, forms **Liquor Æthyl Nitritis.** *Dose.*—10 to 60 minims. This should not be diluted with water until administered.—P.J. 1888,861. Report on this solution and spirit of nitrous ether.—P.J. 1888,490.

ÆTHER ACETICUS.

Acetic Ether (*Off.*).—*Syn.* Acetate of Ethyl. *Dose.*—20 to 60 minims.

Is prepared by mixing slowly and keeping cool sulphuric acid 130 with rectified spirit 129, adding acetate of sodium 140, mixing well and distilling 180. This distillate is digested with carbonate of potassium for three days. The ethereal fluid is separated and again distilled, all but about 16 parts. This last distillate—Acetic Ether—is a colourless liquid with an agreeable ethereal odour. Sp. Gr. about 0·900; boiling point about 160° F.; soluble 1 in 10 of water and in all proportions

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until the fluid in the retort begins to blacken. The distillate is then shaken with lime-water to neutralise any acid; the supernatant liquid is lastly separated, and after exposure to the air for about 12 hours it is ready for use, as Ethereal Oil—Oleum Æthereum, or Oil of Wine, for making the above preparation.]

rectified spirit and of ether. It is used as a menstruum in preparing Liquor Epispasticus (see p. 95).

ÆTHYL BROMIDUM.

Bromide of Ethyl.—*Syn.* HYDROBROMIC ETHER. Is prepared by distilling a mixture of alcohol, bromine, and phosphorus. It is a colourless, very volatile liquid with a strong peculiar odour and a sweetish warm taste. It has Sp. Gr. 1·419, boils at 105° F. On keeping, it is liable to liberate free bromine.

It has been used, particularly in America, as an anæsthetic, as has also a mixture of Bromide of Ethyl 1 part, Chloroform 3 parts and Alcohol 4 parts. Also inhaled to relieve migraine.

Bromide of Ethyl Capsules.

Encased in cotton wool and silk, contain 5 minims in each ; are convenient for use when fractured.

Produces anæsthesia in 2 or 3 minutes. Its odour remains longer in the breath of the patient than ether or chloroform ; it does not irritate the respiratory passages, and it causes less excitement and tendency to struggle than ether or chloroform.—L. i./80,981 ; B.M.J. i./80,601 ; Pr. xxiv.384 ; B.M.J. i./84, 812.

Notes and letter on its use for anæsthesia,—one death from ; patients manifest a great dislike to its odour.—B.M.J. i./80,585,586,983 ; M.R. 1880,273.

Useful and safe as a general anæsthetic—is not such a depressent as chloroform ; and as a local anæsthetic in neuralgia.—Trans. Med. Cong. 1881,i.449 ; B.M.J. ii./82,934 ; P.J. 1880,3 ; 1887,89.

Notes of 15 cases of anæsthesia and its characteristics ; is safe as an anæsthetic can be, rapid in its action and pleasant in its effects, and is not inflammable.—Glasgow Med. Jour. March 1880,259.

For local anæsthesia, recommended as spray or simply short covered contact, not necessary to freeze the part, all feeling ceases. Is of great service to dentists.—L. i./82,212 ; i./89, 848,900.

ÆTHYL IODIDUM.

Iodide of Ethyl.—*Syn.* HYDRIODIC ETHER. May be obtained by distilling a mixture of alcohol, iodine, and phosphorus. It is a colourless liquid, but liable to become coloured by setting free iodine. It has a penetrating ethereal odour; boils at 148° F., has Sp. Gr. 1·94; is not inflammable. When dropped on red-hot charcoal, it gives off a purple vapour. It is dissolved by alcohol and ether, but not readily by water.

It is useful inhaled as an anæsthetic to relieve the dyspnœa of bronchitic asthma and œdematous laryngitis. As it contains four-fifths of its weights of Iodine, it forms a rapid means of saturating the system with this element; it neither impairs appetite nor weakens digestion.

Iodide of Ethyl Capsules.

Encased in cotton wool and silk, containing 5 minims in each. The glass capsule is snapped, the fluid absorbed by the wool, &c., and inhaled for four or five minutes. This may be repeated 3 or 4 times a day.

Increases the bronchial secretion, stimulates the respiratory centres;—5 cases of paroxyms of asthma quickly relieved; of advantage in cardiac and laryngeal dyspnœa.—Pr. xxi.446; M.T.G. i./78,149.

Useful for inhalation in œdema of the glottis from catarrhal laryngitis.—Pr. xxiii,136.

Acts as an antispasmodic in spasmodic asthma and certain forms of nervous dyspnœa: iodine can be detected in the urine 10 minutes after inhalation, and as long as 30 hours after.—Pr. xxv.459.

The ether in the glass capsules is remarkably pure, containing hardly a trace of free iodine, and, as it is protected from light and air, it is likely to keep. Of course, the patient requires no assistance, and can take one of the capsules from the bed side, even in the dark.—L. ii./79,879.

Useful in bronchial catarrh; induces sleep and promotes expectoration when inhaled.—B.M.J.ii./89,1216.

AGARICUS ALBUS.

White Agaric.—*Syn.* Polyporus Officinalis; Boletus Laricis; Fungus Laricis; Larch or Purging Agaricus.

Dose.—10 to 30 grains.

In white irregular pieces, deprived of the outer rind, the size of the fist or larger; is light, spongy, friable, but not easily powdered, odour faint, taste sweetish, afterwards acrid and bitter.

Under the name of Agaricus are sold preparations of the fly agaric, *Amanita Muscaria* (see Muscarine), from which the White Agaric must be carefully distinguished.

Agaric is in large doses a purgative, small ones an astringent, given to check night sweating (M.R. 1879,267; Pr. xxiii.209) and diarrhœa, to diminish bronchial secretion, and to dry up the milk after weaning.

Acidum Agaricum.—*Syn.* ACIDUM LARICICUM. *Dose.*—$\frac{1}{12}$ to $\frac{1}{6}$ grain.

In minute white crystals, soluble in alcohol, chloroform and ether, and boiled with water forms a gelatinous solution. Is nearly identical with Agaricin, of which it forms about 97 per cent., the remainder being AGARICOL, which is physiologically inert. Is specially useful in profuse sweating.—Pr. xliii.215; Th. Gaz. April, 1889, 267; Aug., 535; P.J. 1889,168.

Agaricin, a white crystalline powder. *Dose.*—$\frac{1}{12}$ to $\frac{1}{6}$ grain.

For night sweats dose of $\frac{1}{13}$ grain in pill acts in about 6 hours.—L. i./84,405; L. i/86,223; Th. Gaz. April, 1888,246.

For night sweats should be combined with Dover's Powder, which checks its laxative action.—Th. Gaz. Jan. 1888,41.

Extractum Agarici. *Dose.*—3 to 6 grains in pill. Prepared with rectified spirit.

Tinctura Agarici. *Dose.*—20 to 60 minims. 1 in 10 of proof spirit.

In night sweating, 3 grains of extract in pill, 2 at bed-time, generally checked, at times they purged.—Pr. xxix.321.

ALCOHOL ETHYLICUM.

Ethylic Alcohol (*Off.*). — *Syn.* ABSOLUTE ALCOHOL.

Is directed to be prepared by dehydrating rectified spirit, first with carbonate of potassium, and then with chloride of calcium, and distilling. The official preparation has Sp. Gr. 0·797 to 0·800, and therefore contains 1 or 2 per cent. of water. It can be commercially obtained of Sp. Gr. 0·796; if chemically pure, it has Sp. Gr. 0·794. It is now official to add to chloroform, and to prepare Liquor Sodii Ethylatis.

ALDEHYDUM DILUTUM.

Diluted Aldehyde, T.H.

A mixture of spirit and Aldehyde (Acetaldehyde) containing 15 per cent. of the latter. Aldehyde is an oxidation product of alcohol preceding the formation of acetic acid, into which, if in the pure state, it readily passes. Diluted Aldehyde is a colourless liquid neutral to test papers, and has an ethereal suffocating odour, producing spasm of the glottis when respired.

Vapor Aldehydi, T.H.

Diluted Aldehyde 80 minims, water to 1 ounce.

A teaspoonful to a pint of water at 140°.

Useful in catarrhal congestions and in ozæna.

Metaldehyde. *Dose.*—2 to 8 grains, in cachets or pills.

In silky white acicular crystals, slightly soluble in alcohol and ether, insoluble in water. Has been found a useful sedative and hypnotic.

Paraldehydum, Paraldehyde.

Dose.—30 to 60 minims, or more, in diluted syrup or almond mixture, repeated if needed in ½ an hour.

A colourless liquid at the ordinary temperature, although it, like glacial acetic acid, crystallizes if cooled below 50°F. Sp. Gr. 0·998, may be obtained by treating Aldehyde with dilute sulphuric or nitric acid. Its odour and taste somewhat resemble Aldehyde, but it does not cause the same suffocating action when respired. Soluble 1 in 10 of water. It and its solid congener Metaldehyde are polymers of Aldehyde.

Elixir Paraldehydi. *Dose.*—1 to 3 drachms.

Paraldehyde 240, Glycerine 240, Rectified Spirit 480, Oil of Cinnamon 4, Oil of Bitter Orange 8, Saccharin 1.

Capsules of Paraldehyde, 3 minims in each.

Paraldehyde is contained, and probably the principal therapeutic agent, in **Spiritus Ætheris Nitrosi, B.P.**

It resembles chloral in its physiological action, but differs from it in strengthening the heart's action, whilst it diminishes its frequency. It greatly increases the flow of urine, but does not affect the skin, nor does it give rise to digestive disturbances, to headache, or other unpleasant symptoms.—B.M.J.i./83,215,956; ii./85,99; i./89,515; L. ii./83,344; P.J. 1889,781; Y.B. 1890, 309.

Used 150 times in asylum practice. A useful hypnotic quicker than chloral in dose of 30 to 90 minims.—L. i./85,201.

Produces calm and untroubled sleep, not followed by head-ache on awaking; it may be injected hypodermically.—L.i./85,723; ii./89,15; Pr. xliii.13,143.

As a narcotic, may be given in those heart diseases in which chloral would be dangerous.—Pr. xxxiii.138; L.i./87,555; ii./87,204.

A good narcotic, unless there be gastric irritation. Is antagonistic to strychnine, and is sedative rather than anodyne.—B.M.J. ii./85,95.

Is satisfactory as an enema.—L. i./86,127.

An unreliable hypnotic, but of value in cardiac asthma in aortic disease, also in delirium tremens and that of typhoid.—Pr. xlii.209; B.M.J. i./89,119.

Danger in chronic emphysema.—Pr. xli.339.

ALOIN (*Off.*).

Dose.—½ to 2 grains in a pill with hard soap.

A principle obtained from aloes in odourless lemon-yellow crystals, having the characteristic taste of aloes; is sparingly soluble in cold water, about 1 in 60; freely so in alcohol. As obtained from the different varieties of aloes, the products differ slightly, but their medicinal properties are similar. It is named Barbaloin, Socaloin, Nataloin, or Zanaloin, as obtained respectively from Barbadoes, Socotrine, Natal, and Zanzibar aloes, these, though not identical, are homologous bodies. Barbaloin is preferred in commerce.—M.T.G.ii./76,177; P.J.1875,208; P.J.1876,70.

The purgative properties of aloes are due to these crystalline principles and to uncrystallizable matter soluble in water, nearly allied to them. For hypodermic injection a warm aqueous solution of Aloin may be used.

Barbaloin is aperient in doses of 2 grains, and causes less griping than crude aloes.—M.T.G. ii./76,177.

For constipation, Sir A. Clark recommends Aloin, extract of nux vomica, sulphate of iron, myrrh, and soap, of each $\frac{1}{2}$ grain in a pill taken half an hour before last meal of the day. If fæces be hard and dry and there be no special heart weakness, add $\frac{1}{2}$ grain of ipecacuanha, and should griping be caused add also $\frac{1}{2}$ grain of extract of belladonna.—L. i./87,2.

Pilula Aloin, Strychninæ et Belladonnæ.—*Dose.*—1 or 2. Aloin $\frac{1}{5}$ grain, Strychnine $\frac{1}{60}$ grain, Alcoholic Extract of Belladonna, $\frac{1}{8}$ grain, in each.

ALUMINIUM.

Alumen (*Off.*).—Potash or ammonia alum may be used.

Alumen Exsiccatum (*Off.*).—Prepared from potash alum.

Ferro-Alumen.—See p. 189.

Glycerinum Aluminis.—See p. 192.

Ophthalmic Discs of Alum contain $\frac{1}{250}$ grain in each.

Points of Alum, also of Sulphate of Copper, mounted in wooden cases, are prepared for ophthalmic and other uses.

Liquor Aluminii Acetici, Solution of Acetate of Aluminium, P.G.

Sulphate of Aluminium (true) ...	300.
Acetic Acid, B.P. (by weight) ...	386.
Precipitated Carbonate of Calcium	130.
Water	1,000.

Having dissolved the sulphate in 800 parts of water, add the acetic acid, and while constantly shaking pour in by degrees the carbonate of calcium mixed with 200 parts of water. Set aside for 24 hours in a warm place, and shake frequently, then decant, press the sediment, and filter the solution. Contains $7\frac{1}{2}$ to 8 per cent. of subacetate of aluminium.

Diluted with twice as much water, thus making a $2\frac{1}{2}$ per cent. solution, it has been used as an antiseptic otion, and gauze impregnated with a 5 per cent. solution has been used as an antiseptic dressing by Maas of Freiburg. The solution is a powerful antiseptic and slight astringent.—M.T.G. ii./80,506.

Liquor Aluminii Chloridi.

A straw-coloured inodorous liquid, with an astringent taste and acid reaction, Sp. Gr. 1·250; may be obtained by the double decomposition of sulphate of aluminium and chloride of barium. It possesses strong antiseptic properties.

Chloralum.

The common disinfectant, prepared like the last, using calcium chloride, is a much weaker solution, and is darker in colour, owing to its containing some perchloride of iron in solution.—L. ii./70,354,527.

Lapis Divinus, R.O.H.

Alum, sulphate of copper, and nitrate of potassium, of each 1 part, camphor equal to $\frac{1}{50}$ of the whole; fuse together, and run into moulds to form short pointed sticks.

AMMONIUM.

Ammonii Benzoas (*Off.*).—See p. 2.

Ammonii Bicarbonas.—*Dose.*—3 to 10 grains.

In minute white crystals, soluble 1 in 8 of water. As a diffusible stimulant is less caustic in taste and more palatable than the official carbonate; is specially adapted for effervescing draughts in conjunction with citric acid.

Ammonii Bromidum (*Off.*).—*Dose,* 2 to 20 grains.

Is used where the potassium salt may cause too much depression.

Trochisci Ammonii Bromidi. 2 grains in each with fruit paste. For whooping cough, spasmodic affections of the throat, and loss of voice.

Rubidium-Ammonium Bromide.—In white granular crystals, more defined than those of bromide of ammonium. On the assumption that the greater the atomic weight of a bromide, the greater is its therapeutic activity, bromide of rubidium has been used with good results. For cheapness, the combination with ammonium is employed. Action about equal to that of bromide of potassium; more favourable in some cases. Average dose, 90 grains daily.—Th.Gaz. Oct. 1889,684; P.J. 1889,62.

Efficient in epilepsy; more powerful than bromide of potassium.—B.M.J. i./90,43.

Ammonii Carbonas (*Off.*).—*Dose,* 3 to 10 grains.

Ammonii Chloridum (*Off.*).—*Dose* 5 to 20 grains.

The pharmacopœia describes both the commercial salt, in tough translucent fibrous masses, and the purer salt, prepared by dissolving the above in water, filtering, and evaporating until snow-white granular crystals are obtained. Either may be used. Liquid extract of liquorice disguises its nauseous taste.

Trochisci Ammonii Chloridi, T.H.

Contain 2 grains of the salt in each, with black currant paste as a basis.

Dose.—One every 3 hours; useful in congestion of the pharynx and larynx, loss of voice arising from cold and bronchial cough.

Vapor Ammonii Chloridi is used in affections of the throat and Eustachian tube. Produced by air being drawn through hydrochloric acid and ammonia in a suitable apparatus and purified by passing through water or a moist sponge. 15 cases reported.—M.P.C. ii./89,456.

Ammonii Fluoridum.—See p. 18.

Ammonii Iodidum, U.S.—*Dose* 3 to 10 or 20 grains.

A white granular salt, in minute crystalline cubes, very deliquescent and soon becoming yellow or yellowish-brown on exposure to air; odourless when white, with a sharp saline taste and a neutral reaction. Soluble 1 in 1 of water, 1 in 9 of rectified spirit. Should be kept from light and air, else free iodine is quickly liberated. It causes less depression than iodide of potassium, and is preferred to the latter for syphilis and rheumatism.

Ammonii Nitras (*Off.*).

The fused salt is official for the production of nitrous oxide gas; on heating to 350° F. it is resolved into this gas and the vapour of water.

Ammonii Phosphas (*Off.*).—*Dose,* 5 to 20 grains.

Ammonii Picras.—See p. 23.

Ammonii Sulpho-Ichthyolas.—See p. 218.

Linimentum Ammoniæ.—Solution of Ammonia 1, Olive Oil 3.

Linimentum Opii Ammoniatum.—B.P.C.

Soap Liniment, Compound Camphor Liniment, Tincture of Opium, of each 6 ounces; Belladonna Liniment, Strong Solution of Ammonia, of each 1 ounce. Mix and filter. (Better to stand a week before filtering.) Resembles the nostrum Bow's Liniment.

Liquor Ammoniæ (*Off.*), Sp.Gr. 0·959. — *Dose*, 10 to 20 minims.

Hypodermic injections of 2 to 6 minims for collapse; or up to 36 minims for snake poisoning, equal to 12 minims of the stronger liquor.

Cobra snake bite, patient recovered after hypodermic injections of 15 minims of the strong liquor diluted with an equal amount of water.—Pr.xl.291.

Liquor Ammoniæ Fortior (*Off.*), Sp.Gr. 0·891.—*Dose*, 3 to 6 minims. Is three times the strength of last preparation.

Liquor Ammoniæ Fortissimus, Sp.Gr. 0·88. It should be about 2·6 per cent. stronger than last preparation.

Liquor Ammonii Acetatis Fortior (*Off.*). *Dose.*—25 to 75 minims. 1 to 4 of distilled water (chloroform water would be better) forms

Liquor Ammonii Acetatis (*Off.*). *Dose.*—2 to 6 drachms.

Liquor Ammonii Citratis Fortior (*Off.*). *Dose.*—30 to 75 minims. 1 to 3 of distilled water forms

Liquor Ammonii Citratis (*Off.*). *Dose.*—2 to 6 drachms.

Spiritus Ammoniæ Aromaticus (*Off.*). *Dose.*—15 to 60 minims. The oils of lemon and nutmeg are now distilled with spirit and water, carbonate of ammonium is dissolved in solution of ammonia and the last portion of distillate, the solution strained and mixed with the first part of the distilled spirit; has Sp. Gr. 0·896.

Spiritus Ammoniæ Fœtidus (*Off.*). *Dose.*—15 to 60 minims.

AMYL NITRIS.

Nitrite of Amyl (*Off.*).

Dose.—By inhalation, the vapour of 2 to 5 minims. By the mouth, ½ to 1 minim.

A yellowish ethereal liquid with a peculiar not disagreeable odour; produced by the action of nitric or nitrous acid on pure amylic alcohol.—Sp. Gr. 0·887; about 70 per cent. of it passes over as vapour below 212° F., —it is difficult to obtain uniform; soluble in spirit, insoluble in water. It deteriorates by exposure to the air and becomes comparatively inert. Tested by means of Allen's Nitrometer, a 5 per cent. solution in spirit should yield seven times its volume of nitric oxide gas. New process for making.—P.J. 1888,485. Nitrite of amyl dilates the vessels and lowers blood-pressure.—B.M.J. i./89,29; P.J. 1888,491.

In 30 to 40 seconds after inhaling or swallowing a dose it flushes the face, and increases the heat and perspiration of the head and neck.

It has been successful in relieving angina pectoris, sea sickness, ague, spasmodic asthma, migraine, neuralgic dysmenorrhœa, post-partum hæmorrhage, as an antidote to chloroform, to ward off epileptic attacks, and for the spasm of false croup and whooping-cough.

Capsules of Nitrite of Amyl.

Encased in cotton wool and silk; 1, 2, 3, or 5 minims.

In use the glass capsule is broken, the liquid soaks the cotton wool and silk cover, and can be inhaled most conveniently. For practical purposes the 3-minim size meets all wants.—L. ii./78,89; B.M.J. i./78,452.

In chloroform syncope, Nitrite of Amyl affords the quickest means of restoring the heart's action; the capsules are the most convenient form of using it.—B.M.J. ii./84,1063; Brit. Dent. Jour. 1884,745; B.M.J. ii./85, 538-9; ii./88,522.

Mistura Amyl Nitritis.

Nitrite of Amyl	... ...	16 minims.
Rectified Spirit	... ...	2 drachms.
Mix and add to Powdered Tragacanth (contained in a dry 4-ounce phial)	... ...	6 grains.
Then add gradually		
Distilled Water	... to	4 ounces.

Shake well.

Dose.—1 or 2 drachms; is useful against sea-sickness.

Glycerine Mixture: — Nitrite of Amyl, 36 minims; Alcohol (0·83), 6 drachms; Glycerine to $1\frac{1}{2}$ ounces. *Dose.*—One teaspoonful in warm water, taken slowly.—Asclepiad, 1884,166.

For the treatment of angina pectoris 5 drops inhaled; the physiological action occurs in 30 to 60 seconds.—L. ii./67,97; L. ii./75,445; M.T.G. ii./70,272,321; M.T.G. ii./76,17; B.M.J. ii./88,522.

In ague, on the onset of the cold stage, 5 minims inhaled cuts short the attack and checks the recurrence of the paroxysms.—L. i./78,37,185,445; L. ii./78,693; L. i./85,911.

As an antidote to chloroform 3 minims inhaled.—L. i./75,644; B.M.J. i./79,969; ii./88,179; Br. ii./79,xxi.

Very useful in sea-sickness, 3 drops (from a glass capsule) inhaled and repeated every 2 or 3 hours if necessary. — L. i./79,650,687,759; L. ii./79,212,226, 265,301,303.

In post-partum hæmorrhage, 5 minims inhaled restored patient from collapse.—B.M.J. ii./79,691.

To restore animation a dose should be given in doubtful cases of death, either drowning, hanging, fainting, or fear of being buried alive.—B.M.J. i./79,863.

In tetanus inhale a dose in every spasmodic seizure to gain time.—M.T.G. i./70,472; L. i./74,871.

Relieves infantile convulsions, $\frac{1}{4}$ to $\frac{1}{3}$ minim in alcoholic solution given on sugar.—L. i./82,667.

Is a powerful agent to relax uterine spasms and hour-glass contraction, whether natural or caused by ergot.—B.M.J. i./82,377.

Ten per cent. solution in spirit may be given hypodermically for colic and acute lumbago.—B.M.J. i./82,817.

Is the best antidote to an overdose of cocaine.—B.M.J. i./88,757.

Recommended as a domestic remedy for the various aches and pains of every-day life, externally for stomach-ache, colic, toothache, and neuralgia, and inhaled in hemicrania, chlorotic dysmenorrhœa, dizziness, faintness, threatened paralysis of the heart and asphyxia from drowning or hanging.—Pr. xxviii.139.

In uræmic asthma, Nitrite of Amyl capsules found useful.—B.M.J. i./83,811,956,1064,1115.

In puerperal eclampsia, excretion of uric acid largely increased under its use.—Pr. xxxiv.50.

1 part to 9 of methylal inhaled in angina is less sudden in its action, but more prolonged.—L. ii/87,861; C. & D. ii./87,714.

Successful use in epilepsy, controlling the fits, and preventing insensibility. One drachm swallowed by mistake, partly recovered by apomorphine, produced permanent good effects.—B.M.J. ii./89,599,688.

The best remedy in angina pectoris; patient's mind relieved by small doses of morphine, combined with the nitrite.—L. i./90, 240.

New process for making, and research on composition of nitrite of amyl of commerce; shown to contain an α- and a β-amyl nitrite, as well as

Isobutyl Nitrite.—This, when pure, is found prompt in action on blood-pressure, pulse-rate, and respiration, and may be used as a substitute for nitrite of amyl for inhalation.—P.J. 1888,485; B.M.J. ii./88, 1407; Y.B. 1890, 308.

AMYLENI HYDRAS.

Hydrate of Amylene.

Syn.—DIMETHYL-ETHYL CARBINOL. *Dose.*—30 to 80 minims, flavoured with extract of liquorice.

A colourless liquid, of pungent taste and odour, resembling a mixture of paraldehyde and camphor. Soluble in 12 parts of water, also in alcohol. Sp. gr. 0·812, boiling point 216° F. It is a hypnotic, occupying an intermediate position between chloral and paraldehyde —B.M.J. i./88,87, 549; P.J. 1887.89.

Capsules contain 10 minims in each. *Dose.*—3 to 6.

More free from smell and less dangerous than paraldehyde.—Th. Gaz. Sept. 1887,605.

Is a reliable hypnotic, does not disturb the stomach.—Th. Gaz. Dec. 1887,819; May, 1888,331.

Is less effective, but more safe than chloral.—Th. Gaz. April, 1888,267.

Successful use in a variety of cases.—B.M.J.ii./88,191.

Four cases of poisoning (resembling alcoholic), from overdose. All recovered under hypodermic injections of camphor.—P.J. 1889,608, *ex* Med. Chron.

ANACARDIUM.

Anacardium Occidentale; Cashew Nut.

The pericarp of this reniform-shaped nut contains a quantity of acrid, caustic and vesicating, oily liquid, which produces a dark-coloured stain and an eczematous inflammation of the skin. This liquid has been employed as a specific for leprosy, and as an application for ringworm, corns, and obstinate ulcers, yet three or four drops may be swallowed without marked effect. It is given internally as a vermifuge. It consists of about 90 per cent. of Anacardic acid and 10 per cent. of Cardol. To the latter the vesicating properties are probably due. The kernels are edible.—P.J. 1845,268; 1882,708. May produce poisonous symptons. — Th. Gaz., July, 1889,448.

Tinctura Anacardii.—Tincture of Cashew Nut.
1 in 10 of rectified spirit. *Dose.*—2 to 10 minims.

The Marking-Nut obtained from *Anacardium officinarum* contains a similar fluid in the pericarp, and possesses similar properties.

ANTHEMIDIS FLORES.

Chamomile Flowers (*Off.*).

In addition to the official Extract, Infusion and Oil, there is prepared from the flowers of *Anthemis nobilis*:—

Tinctura Anthemidis.

Chamomile Flowers, single and fresh	1 pound.
Rectified Spirit	24 ounces.

Macerate a week, press out the liquid, and add to the mass

Distilled Water ... ... 8 ounces.

Digest 24 hours; press again; and add the liquid pressed out to the first liquid obtained; set aside a week and filter. *Dose.*—3 to 10 minims, or more.

Chamomile infusion or tincture in small doses is useful in summer diarrhœa of children, often occurring during teething, and in which there are green, many-coloured and slimy stools; it quiets their peevishness.—R.

ANTHOXANTHUM ODORATUM.

Sweet Vernal Grass.

The flowers of this owe their odour on drying to Coumarin. Their pollen is said to be the principal cause of hay-fever, and accordingly, by those who believe in *similars*, a tincture of the plant has been used, internally and locally as a lotion, for this troublesome disease.

Tinctura Anthoxanthi.

One of fresh-flowering herb in 10 of spirit 40 O.P., making allowance for the moisture the plant contains.

Dose.—2 to 6 minims.

Anthrarobin.—See p. 119.

Antifebrin.—See p. 119.

Antifungin.—See p. 7.

ANTIMONII CHLORIDUM.

Chloride of Antimony. *Syn.*—TRICHLORIDE OF ANTIMONY.

When pure is in colourless crystals, or translucent crystalline masses, known as butter of antimony. It is very corrosive; on addition to water, it decomposes into free hydrochloric acid and basic oxychloride of antimony, powder of Algaroth.

Liquor Antimonii Chloridi (*Off.*).

A heavy caustic liquid of a yellowish red colour; Sp. Gr. 1·47. It is coloured by impurity, perchloride of iron often added intentionally. It can be obtained colourless. Chloride of antimony is a useful caustic and desiccating escharotic, does not cause much pain.

Antipyrin.—See p. 120.

Antithermin.—See p. 123.

APIOL.

Dose.—3 to 6 minims, in perles.

A liquid preparation obtained from, and containing the active properties of, the fruit of *Apium Petroselinum*, common parsley. It is a green oily liquid, with a peculiar odour and a pungent taste like parsley, is not miscible with water, but dissolves readily in alcohol and ether. A stearoptene in light, colourless, acicular crystals, only slightly soluble in water, is also known by the name of **Apiol.** It has been employed as an antiperiodic for ague, and also for amenorrhœa and dysmenorrhœa. As its odour is strong and persistent, it is best administered in the form of

Perles. *Dose.*—1 or 2, contain 3 minims in each.

Had decided efficacy in primary amenorrhœa or deficiency of secretion, as well as in accidental suppression and in dysmenorrhœa, a perle given night and morning for 4 or 5 days during the epoch.—M.T.G. i./61,97.

Amenorrhœa, successful in several cases.—L. i./85,59.

APOCYNUM, U.S.

American Indian Hemp Root.—*Syn.*—APOCYNUM CANNABINUM, CANADIAN HEMP.

Dose of root in powder.—1 to 20 grains.

A resin Apocynin, in white micaceous crystals, soluble in alcohol and ether, a heart poison, arresting it in systole; and a glucoside Apocynein, have been isolated from this root. These must be distinguished from **Apocynin,** an eclectic brown-coloured extractive, given in *dose* of $\frac{1}{2}$ to 1 grain.

Tinctura Apocyni.

1 in 10 of proof spirit. *Dose.*—5 minims to a drachm.

American Indian Hemp is a powerful emetic and diaphoretic in large doses; it also acts as a cathartic, anthelmintic, and diuretic, useful in dropsy and Bright's disease.

Considered one of the best diuretic and hydragogue cathartics, a small quantity produces diuresis, emesis, or catharsis; it has an agreeable aromatic taste and also possesses tonic properties.—Pr. xxviii.62.

Uræmia is warded off by the profuse diuresis it produces.—Y.B. 1886,67.

Very valuable in removing pleuritic effusion.—Ed.M.J. 1887,847 Th. Gaz. Jan. 87,29.

In nephritis caused no diuresis or slowing of pulse; action on heart resembles strophanthus rather than digitalis. Chief use as a diuretic is in cardiac dropsy; diuresis ceases when dropsy has all run off. Caused vomiting in some cases. Th. Gaz. Sept. 1889,585.

APOMORPHINÆ HYDROCHLORAS.

Hydrochlorate of Apomorphine (*Off.*).

Dose.—$\frac{1}{32}$ to $\frac{1}{10}$ grain as an expectorant; $\frac{1}{12}$ to $\frac{1}{4}$ grain as an emetic by mouth, $\frac{1}{25}$ to $\frac{1}{6}$ grain hypodermically.

A derivative of morphine or codeine obtained by heating them with an excess of hydrochloric acid and without access of air. Apomorphine is morphine deprived of a molecule of water. In commerce the hydrochlorate occurs in minute pale greyish-white, acicular crystals, soluble 1 in 35 of water, but the solution turns emerald-green in colour, but loses little of its medicinal powers. This discolouration is due to the action of free ammonia in the air, a trace of which will develop the tint. Insoluble in ether and chloroform.

It acts as a non-irritant emetic and powerful anti-stimulant; in bronchial asthma doses of $\frac{1}{6}$ grain are very useful. Small doses are expectorant. May be given as **Tabellæ Apomorphinæ,** $\frac{1}{50}$ grain in each combined with chocolate.

Injectio Apomorphinæ Hypodermica (*Off.*).

Hydrochlorate of Apomorphine	2 grains.
Camphor Water	100 minims.

Filter. *Dose.*—2 to 8 minims as an emetic.

Two minims of diluted hydrochloric acid added to the above keeps it stable and colourless, yet does not make it irritating when injected; camphor water is useless.

It loses not much in strength by becoming coloured.—L. ii./85,641.

Hypodermic Lamels are prepared containing $\frac{1}{10}$ grain in each.

Syrupus Apomorphinæ Hydrochloratis, B.P.C. Hydrochlorate of Apomorphine, 5 grains; Diluted Hydrochloric Acid, 2 drachms; Rectified Spirit, 7 drachms; Distilled Water, 7 drachms; Syrup, 18 ounces. *Dose.*—$\frac{1}{2}$ to 1 drachm.

Apomorphine never failed to produce vomiting by a single dose, $\frac{1}{6}$ grain by the mouth or $\frac{1}{10}$-grain hypodermically. The vomiting seems to put an end to itself; there is no subsequent nausea, nor is it followed or accompanied by any ill effects.—Trans. Clin. Soc. ii./69,166; M.T.G. ii./79,592.

Causes free vomiting, followed by sleep.—B. & F. M. Ch. Rev., 1875,503.

In a case of poisoning by carbolic acid of great use as an emetic.—Pr. xix.377.

Œsophagus obstructed by plum-stone, by injecting apomorphine hypodermically the vomiting caused its removal. Useful as an emetic in poisoning or stomach overloaded.—Pr. xxi.375.

As an emetic and depressent in alcoholic intoxication, and poisoning, with essential oil of bitter almonds and carbolic acid, cases recovered.—Stillé and Maisch.

In sunstroke one-sixteenth of a grain injected caused emesis in less than ten minutes, temperature was reduced, skin became slightly moist, pupils dilated, whilst sensation and movement returned within half an hour.—Pr. xxiv.456.

Summary of physiological action.—Pr. xxiv.367.

Hysterical coma, one-tenth of a grain cured.—B.M.J. i./80,477.

Useful as an expectorant in bronchitis and catarrhal pneumonia of children.—Pr. xxvii.285.

Two cases of poisoning treated by hypodermic injection, one alcoholic, recovered, the other by oxalic acid, was fatal.—L. i./83 1073. Th. Gaz. April, 1889,242.

As an expectorant $\frac{1}{20}$ grain every 2 hours is useful, or, given with the same quantity of morphine every 2 or 4 hours, it lessens cough and increases fluidity of sputa.—M.R. 1882,483,497.

Is a safe, certain, and quick emetic.—B.M.J. i./83,907; i./89,525,885. Especially for children.—Pr. xlii.298.

In carbolic acid poisoning $\frac{1}{8}$ grain hypod. injected emptied stomach, recovery followed.—L. ii./83,280.

In dose of 2 to 6 milligrammes ($\frac{1}{10}$ to $\frac{1}{5}$ grain), it relieves the spasm of hiccup, epilepsy, and chorea, without causing nausea.—L. ii./84,1166.

On the eye, its solution acts like cocaine as a local anæsthetic and mydriatic, but its action is always followed by nausea.—Ther. Gaz. Aug. 1885,524; P.J. 1885,287.

In Pertussis is given with good effect, combined with morphine.—B.M.J. ii./87, 78.

Preferred to other emetics for its rapid, and especially for its transient, action.—Bull. Therap. 1889, Oct., 364.

ARGENTI NITRAS.

Nitrate of Silver (*Off.*).—*Syn.* LUNAR CAUSTIC.

Dose.—$\frac{1}{6}$ to $\frac{1}{3}$ grain or more in a pill, best with kaolin ointment as an excipient—*not* with bread crumb, —this contains common salt, which decomposes it.

Mitigated Nitrate of Silver is prepared of various strengths by fusing together nitrate of silver 1 to 1, 1 to 2, or 1 to 3 of nitrate of potassium, for the use of oculists and surgeons.

The fused mixture of 1 part with 2 of nitrate of potassium is now official as **Mitigated Caustic,** or **Argenti et Potassii Nitras** (*Off.*).

Antidote to Nitrate of Silver—common salt given in some demulcent drink. Salt is also used to arrest its action locally as a caustic.

Toughened Caustic (*Off.*).

Has 5 per cent. of nitrate of potassium added to it before fusing and moulding it into caustic points.

Injectio Argenti Hypodermica.

Chloride of Silver,* freshly prepared	0·5 gramme.
Hyposulphite of Sodium ...	3 grammes.
Distilled water to... ...	100 c.c.

Dose.—2 to 10 minims. Should be freshly prepared.

Hair Dye (**Black or Brown**).

No. 1 Solution.—Nitrate of Silver, 80 grains; Distilled Water, 2 ounces.

No. 2 Solution.—Sulphurated Potash, 4 drachms; Distilled Water, to 4 ounces. After washing and drying the hair, the solutions to be applied separately, in above order, and after 2 minutes the hair well washed with rain water. This dyes black, but lighter shades may be obtained by using a weaker strength of No. 1 solution, which should not be allowed to touch the skin.

Black Dye.

No. 1 Solution.—Pyrogallic acid, $\frac{1}{4}$ ounce; Rectified Spirit, 2 ounces; Distilled Water, 10 ounces. Use first.

No. 2 Solution.—Nitrate of Silver, $\frac{1}{4}$ ounce; Strong

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* This quantity of chloride is best obtained by the double decomposition of nitrate of silver 0·55 gramme in aqueous solution, and pure chloride of sodium 0·8 gramme, filter and wash the precipitate,—this readily dissolves in the solution of the hyposulphite above.

Solution of Ammonia, $\frac{1}{4}$ ounce; Distilled Water to 2 ounces. Use as last recipe.

Ophthalmic Discs of Nitrate of Silver contain $\frac{1}{500}$ grain in each combined with gelatine.

Aristol. See p. 226.

ARSENIUM.

Metallic Arsenic.

Acidum Arseniosum. Arsenious Acid.

Syn.—ARSENIC; WHITE ARSENIC; ARSENIOUS ANHYDRIDE.

Arsenious anhydride, obtained by roasting arsenical ores, and purified by sublimation. This is the most generally used preparation of arsenic; much used for skin diseases, given as

Liquor Arsenicalis, Fowler's Solution.

Syn.—LIQUOR POTASSÆ ARSENITIS (*Off.*).

Dose.—2 to 8 minims. Is about one-eleventh stronger than in B.P. 1867; contains 1 per cent. of arsenious acid.

Arsenious Acid, in powder ...	87 grains.
Carbonate of Potassium ...	87 grains.

Add half a pint of distilled water to these in a flask, and heat till dissolved; cool and add

Compound Tincture of Lavender	5 drachms.
Distilled Water *q.s.* to ...	1 pint.

Liquor Arsenici Hydrochloricus (*Off.*).

Dose.—2 to 8 minims. Is about one-eleventh part stronger than before; contains 1 per cent. of arsenious acid. Is compatible with acid mixtures.

Arsenious Acid, in powder ...	87 grains.
Hydrochloric Acid	2 drachms.

Boil these with 4 ounces of distilled water till dissolved, and dilute with

Distilled Water *q.s.* to ...	1 pint.

De Valangin's Mineral Solvent was one-third the strength of the above.

Long-continued administration of arsenic may produce epithelial cancer.—B.M.J.ii./87,1280; L.ii./87,1166.

Liquor Arsenici Bromatus, Bromated Solution of Arsenic.—*Syn.* CLEMENS' SOLUTION OF ARSENITE OF BROMINE.

Dose.—1 to 3 or 5 drops, once or twice a day.

Carbonate of Potassium ...	60 grains.
Arsenious Acid, in powder...	60 grains.
Distilled Water	10 ounces.

Boil until dissolved. When cold, add

Distilled Water, *q.s.* to ...	12 ounces, and
Bromine	120 grains.

Set aside until it decolorises. Useful in epilepsy and diabetes with careful diet.—B.M.J. i./85,701.

Arsenious acid is also administered in pilules. It should be well and carefully triturated with sugar of milk before any liquid excipient is added. Those containing $\frac{1}{20}$, $\frac{1}{30}$, $\frac{1}{60}$, $\frac{1}{100}$, and $\frac{1}{120}$ grain are generally kept made. To increase its tonic effect it is often combined with iron, as in

Pilula Ferri Arsenicalis. *Dose.*—1, 3 times a day.

Arsenious Acid, in fine powder	$\frac{1}{60}$ grain	in one pill.
Dried Sulphate of Iron ...	3 grains	
Syrup	$\frac{1}{2}$ minim	

Levico Water is strongly chalybeate and arsenical; "**Levico Strong**" contains $\frac{1}{12}$ grain arsenious acid per pint, with 30 grains of iron salts, and "**Levico Mild**" $\frac{1}{120}$ grain arsenious acid, with 8 grains iron salts. *Dose.*—Half an ounce, diluted, beginning with the milder.

La Bourboule contains $\frac{1}{13}$ grain arsenious acid per pint, and a mere trace of iron.

Arsenii Iodidum, Arsenious Iodide (*Off.*).

Dose.—$\frac{1}{30}$ grain, in a pill.

The two elements by direct combination form small orange-coloured crystals, readily and almost entirely soluble in water and in spirit. It is official to form

Liquor Arsenii et Hydrargyri Iodidi.

Syn.—DONOVAN'S SOLUTION.

Dose.—5 to 15 minims, or 30 (!) B.P.; is about one-fifteenth stronger than the original formula.

Iodide of Arsenium ...	45 grains.
Red Iodide of Mercury ...	45 grains.

Triturate these in $1\frac{1}{2}$ ounces of distilled water till nearly all dissolved. Filter, and wash the filter with

Distilled water *q.s.* to produce 10 ounces.

Given for syphilitic skin diseases.

Pilula Arsenii et Hydrargyri Iodidi contains $\frac{1}{12}$ grain of each salt = $7\frac{1}{2}$ minims of the solution.

Dose.—1 or 2. See p. 204.

Ferri Arsenias (*Off.*).—*Dose.*—$\frac{1}{16}$ to $\frac{1}{2}$ gr. in a pill.

Quininæ Arsenias. See p. 327.

Sodii Arsenias (*Off.*).—*Dose.*—$\frac{1}{16}$ to $\frac{1}{8}$ grain.

As this salt crystallizes with either 7 or 12 molecules of water of crystallization, and is efflorescent as well, the proportion of arsenic it contains is uncertain. It is therefore directed to be made anhydrous, and dried under 300° F. for making

Liquor Sodii Arseniatis (*Off.*).—*Dose.*—5 to 10 minims.

Arseniate of Sodium, anhydrous	1 part.
Distilled Water	99 parts.

This solution now contains 1 per cent., and is about one-eleventh part stronger than before. It is about three times the strength of Pearson's Solution of Arsenic (Codex), which is much used on the Continent; this contains 1 of crystallized arseniate in 600 of water.

ASPARAGIN.

Syn. ALTHEIN. *Dose.*—1 to 2 grains.

In hard crystals, which are transparent colourless right rhombic prisms, having a slightly acid reaction.

May be obtained from *Asparagus officinalis*, and the roots of marshmallow, liquorice, belladonna, &c. Soluble 1 in 12 of cold water, dissolves in acid and alkaline solutions. Insoluble in absolute alcohol and ether.

For cardiac dropsy and chronic gout one grain is given three times a day as a diuretic in combination with bromide of potassium.—P.J. 1879,243.

ATROPINA (*Off.*).

Atropine.

Dose.—$\frac{1}{120}$ to $\frac{1}{60}$ grain increased to $\frac{1}{16}$, or in acute mania to $\frac{1}{8}$ grain or more.

An alkaloid obtained from *Atropa Belladonna.* It is generally in hard white acicular prismatic crystals or crystalline masses, strongly alkaline, soluble 1 in 500 of water, 1 in 8 of rectified spirit, 1 in 36 of ether, 1 in 3 of chloroform, 1 in 40 of olive oil, very soluble in glycerine and oleic acid. Melts at 239° F. Being so insoluble in water, it is not suitable for internal use,—generally given as a sulphate.

In commerce a kind of atropine is sometimes met with in light acicular crystals not quite so white as, but resembling, sulphate of quinine in appearance; although obtained from belladonna, this consists according to Ladenburg principally of pure hyoscyamine. His researches prove that the three mydriatic pure alkaloids, Atropine, Hyoscyamine, and Hyoscine, are contained as follows:—

Atropine in Atropa Belladonna[*] and Datura Stramonium.
Hyoscyamine in Atropa Belladonna, Datura Stramonium, and Hyoscyamus niger.[*]
Hyoscine in Hyoscyamus niger and Duboisia myoporoides.

"Heavy daturine" is identical with atropine; "light daturine" and "light atropine" are identical with hyoscyamine. Duboisine is nearly pure hyoscine. Pure atropine and pure hyoscyamine as well as hyoscine are isomeric alkaloids, but possess different chemical and physical characters. By the action of baryta water both Atropine and Hyoscyamine split up into Tropic Acid and Tropine. Hyoscine splits up into Tropic Acid and Pseudotropine. Therapeutically, Hyoscine possesses about five times the calmative power of Atropine or Hyoscyamine.

Tropine and tropic acid may be recombined under certain conditions to form Atropine, or tropine may be combined with other acids such as salicylic or mandelic acid to form salts. These salts when treated with diluted hydrochloric acid form a class of artificial alkaloids, to which the generic name of *tropeines* is given. One of these so produced from the mandelate of tropine is Homatropine or oxytoluyltropeine. This body, like Atropine, forms salts with acids.—Liebig's Annalen, vol. ccvi.307.

Salts of Homatropine.—See p. 70.

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[*] It has since been shown that atropine, instead of existing as such in these plants, is a conversion product of hyoscyamine or "light atropine," formed during the process of manufacture, and that pure hyoscyamine may be converted into "heavy atropine" by melting under reduced pressure, or by the addition of a trace of caustic soda to its alcoholic solution. Pure atropine melts at 115°-116° C., and is optically inactive; pure hyoscyamine melts at 108°-109° C., and is levogyrate: $[\alpha]_D = -21°$. Hyoscyamine is also found in Scopola root, see p. 387.

Heretofore the terms Atropine and Hyoscyamine have been applied to the "heavy" and the "light" mydriatic alkaloids obtained from *Atropa Belladonna* and *Hyoscyamus niger* respectively, but seeing that the product from either source may be chemically either atropine or hyoscyamine, according to the process of manufacture, the commercial tendency now is to adopt and apply the term hyoscyamine to the alkaloid as above described, irrespective of its botanical source.

Atropine and its salts are used for ophthalmic purposes to dilate the pupil and to paralyze the accommodation. Given internally or hypodermically, they are antagonistic to opium and morphine, Calabar bean and physostigmine, jaborandi and pilocarpine, aconite and aconitine, muscarine, bromal, and hydrocyanic acid. Physiologically, whilst it acts as a "stimulant" to a large part of the central nervous system, it paralyzes many of the nerves.

Atropinæ Santonas, Santonate of Atropine.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, increased as the sulphate.

A white powder consisting of minute granular crystals, soluble 1 in 30 of water. Aqueous solutions, dispensed in yellow bottles, are not liable to become fungoid; they are very useful for ophthalmic use, being also unirritating. —Ed. M.J. 1886, 80, 170; Th. Gaz. June, 1886; Pr. xxxviii.458, xl.58.

Atropinæ Sulphas (*Off.*).

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain increased to $\frac{1}{16}$, or in cases of acute mania $\frac{1}{8}$ grain.

In masses of opaque white minute crystals, or—according to B.P.—a colourless powder, soluble 1 in 4 of water. The crystallized preparation is much to be preferred.

Salicylate and **Valerianate** of **Atropine,** are also used.

The solution of the salicylate is said to have special advantages in not undergoing change by keeping. Soluble 1 in 20 of water.—Br. i./81,lxii.

Liquor Atropinæ Salicylatis (Charing Cross Hospital).—Atropine, $\frac{1}{2}$ grain; Salicylic Acid, $\frac{3}{4}$ grain; Water, 1 ounce.

Lamellæ Atropinæ, Discs of Atropine (*Off.*).

Contain $\frac{1}{5000}$ grain of the sulphate in each, combined with gelatine, for dilating the pupil; others (non-official) containing $\frac{1}{250}$ grain paralyse the accommodation. They are also prepared containing combined Sulphate of Atropine, $\frac{1}{1000}$ grain, with Hydrochlorate of Cocaine, $\frac{1}{200}$ grain; and Sulphate of Atropine, $\frac{1}{5000}$ grain, with $\frac{1}{500}$ grain of Morphine respectively.

Hypodermic Lamels contain $\frac{1}{120}$ grain in each and also this dose combined with Acetate of Morphine, $\frac{1}{4}$ grain.

Injectio Atropinæ Hypodermica.

Sulphate of atropine, 4 grains to the ounce of distilled water. *Dose.*—1 to 4 minims, or more. In R.O.H. it is half this strength.

Injectio Morphinæ et Atropinæ Hypodermica. —See Morphina, p. 257.

Linimentum Atropinæ.

Atropine	4 grains (more or less, if ordered).
Oleic Acid	1 drachm.
Castor Oil	1 drachm.
Oil of Lavender	5 minims.
Rectified Spirit to ...	1 ounce.

In lumbago and other rheumatic affections is very serviceable used with gentle friction; it is readily absorbed.

Liquor Atropinæ Sulphatis (*Off.*).

Sulphate of atropine 1 to 99 parts of camphor water. *Dose.*—1 to 4 minims, or more.

Is much used for ophthalmic purposes. The sulphate should not be acid, else the solution will be irritating to the eye. It is better to use the crystallized salt, a solution of which is much more stable than that of the B.P. salt. In many cases in which it is used for the eye this solution is much too strong, as it is apt to produce glaucoma.—B.M.J. ii./82,93,178,193.

Guttæ Atropinæ Sulphatis, R.O.H.

Have 2 grains of the salt, to the ounce of distilled water. Guttæ Atropinæ Sulphatis Mitiores R.O.H. and Guttæ Atropinæ Sulphatis Fortiores R.O.H. have respectively 1 and 4 grains to the ounce; also combined with Alum 3 grains, or Sulphate of Zinc 1 grain to the ounce of above weakest drops. R.O.H. also orders the combination of 10 grains of Hydrochlorate of Cocaine with 2 grains of Sulphate of Atropine to the ounce of distilled water. In R.O.H. camphor water as a preservative is disapproved of.

Oleatum Atropinæ.

Atropine	5 grains.
Oleic Acid	200 minims.

Heat in a water bath till dissolved. Perfume with otto of rose, or lavender, if preferred.

Useful to paint on painful parts.

Pessaries of Atropine are prepared with gelatine mass or at times with oil of theobroma, containing generally about $\frac{1}{20}$ grain of the alkaloid in each.

Pilula Atropinæ, $\frac{1}{120}$, $\frac{1}{100}$, $\frac{1}{80}$, $\frac{1}{60}$ grain in each.

Taken at bedtime, to check night-sweating. Is apt to cause dryness of the throat.

Pilula Atropinæ, Arsenici et Quininæ.

Sulphate of quinine 18 grains, solution of arsenic 12 minims, solution of sulphate of atropine 1 minim, extract of gentian 20 grains, and acacia *q.s.* to make 12 pills. For catarrh, if taken in early stage, one every 3, 4, or 6 hours, nip it in the bud.—Pr. xxxviii,179.

Unguentum Atropinæ *(Off.)*.

Atropine 8 grains, dissolved in ½ drachm of rectified spirit, and mixed with an ounce of lard.

Unguentum Atropinæ, R.O.H., is prepared with vaseline like Vaselinum Atropinæ, but with 4 grains of atropine to the ounce. **Unguentum Atropinæ cum Acido Borico**, R.O.H., has 60 grains of powdered boric acid added to above, and **Unguentum Atropinæ cum Cocaina**, R.O.H., has 10 grains of cocaine (alkaloid) dissolved in the same. **Unguentum Hydrargyri Oxidi Flavi cum Atropina**, R.O.H., has 4 grains of the yellow oxide, and 2 grains of atropine to the ounce of soft paraffin. **Unguentum Iodoformi cum Atropina**, R.O.H., has 60 grains of precipitated iodoform in place of the yellow oxide in last preparation.

Vaselinum Atropinæ.

Atropine (pure alkaloid)	1
Vaseline	60

Heat carefully till dissolved. N.B.—Sulphate of Atropine is not soluble in vaseline.

This forms a definite, convenient, and economical mode of applying atropine to the eye. A little may be placed within the lower lid. It produces no irritation. For some purposes it will bear dilution.—Br. ii./82,xci.

As a mydriatic the uses of atropine are well known. —B.M.J. ii./79,364.

Idiosyncrasy to ; giddiness and drowsiness, with dryness of tongue, stupor, and fright.—B.M.J. ii /88,990 ; L. ii.89,1369.

Atropine and belladonna either given internally, hypodermically, or used externally, diminish perspiration, and will check this when excessive, as in the night sweats of phthisis and other wasting diseases; should be used locally for profuse sweating of the hands, feet, or other parts; also for leucorrhœa and uterine discharges. They likewise check the secretion of milk and saliva, and antagonise such drugs as jaborandi, opium, Calabar bean, muscarine, aconite, bromal, and prussic acid.—R.

In night-sweating, $\frac{1}{200}$ to $\frac{1}{80}$ grain may be increased to $\frac{1}{25}$ grain, taken at bedtime. Is apt to cause dryness of the throat, and is not so useful for this purpose as picrotoxin or pilocarpine.—Pr. ix.91,224; Pr. xxiii.93.

Causes sleep in acute mania in dose of $\frac{1}{4}$ to 1 grain of sulphate.—Pr. xviii.166; R.

Physiological experiments on antagonism to morphine.—Pr. xviii.356.

Antagonism to pilocarpine.—L. ii./79,479.

One grain of sulphate of atropine subcutaneously injected cured a case of poisoning by laudanum (equal to 12 grains of opium).—L. i./78,354; B.M.J. i./78,267.

A case of poisoning by $2\frac{1}{2}$ grains of sulphate of atropine was cured by 16 centigrammes of hydrochlorate of pilocarpine given in centigramme doses every 5 or 10 minutes.—B.M.J. i./80,366; P.J. 1880,771. Poisoning by $3\frac{1}{2}$ grains; recovery after emesis.—B.M.J. i./89, 1051; Another case, treated with morphine.—L. ii./89, 1003.

Use of hypodermic injection previous to the administration of chloroform as an antidote to the cardio-inhibitory effects of chloroform.—B.M.J. ii./80,620,715,761. Prevention of shock by injection before ether anæsthesia.—Th. Gaz. April, 1889,239.

Atropine $\frac{1}{20}$ grain is antagonistic to 1 grain of morphine. In cases of poisoning small doses should be frequently injected hypodermically, and the poison eliminated by drawing off the urine with a catheter frequently.—B.M.J. i./81,239; Pr. xxvi.128.

Case of poisoning by 6 drachms of tincture of opium, treated with two hypodermic injections of sulphate of atropine, with recovery.—L. i./79,843.

Belladonna poisoning successfully treated by hypodermic injection of extract of physostigma.—B.M.J. i./81,918.

In iritis Atropine is indicated, in glaucoma Eserine.—Pr. xxxi.321.

Poisoning by opium (laudanum and paregoric) equal to 18 grains of dry opium, after other remedies had failed, recovered by injecting hypodermically $\frac{1}{80}$ grain doses of sulphate of atropine.—B.M.J. i./84,605.

Hæmoptysis is checked by hypodermic injection of atropine.—B.M.J ii./87,521; Th. Gaz. Feb. 1889,101.

Homatropine, (See p. 65) and its Salts, **Hydrobromate, Hydrochlorate, and Salicylate,** are in minute granular white crystals. Their solutions act as quick and decided local mydriatics, the pupil rapidly returning to its normal condition, but Homatropine, it is said, includes none of the poisonous properties of atropine. The salts are freely soluble in water, the Hydrobromate (mostly used) 1 in 10. Pure Homatropine is nearly insoluble in water, but soluble in oils, or 1 in 100 of vaseline. They are costly. *Dose of each.*—$\frac{1}{120}$ to $\frac{1}{20}$ grain.

Guttæ Homatropinæ, R.O.H.

Hydrobromate of Homatropine 4 grains to Distilled Water 1 ounce.

Injectio Homatropinæ Hypodermica, 1 in 120, is used. *Dose,* 1 to 6 minims, increased.

Oleum Homatropinæ. A 2 per cent solution in castor oil, by weight, dissolved by heat.

Oleum Homatropinæ cum Cocaina, contains in addition 2 per cent of cocaine. R.O.H. has 10 grains of each to the ounce, which is practically the same.

These oily solutions have the advantage, when dropped into the eye, of not being washed out by the tears, nor do they give rise to oil-globules on the cornea, like vaseline solutions.—M.T.G. ii./85,73.

Ophthalmic Discs are also prepared containing $\frac{1}{5000}$ grain Homatropine in each, likewise $\frac{1}{5000}$ grain of Homatropine combined with $\frac{1}{200}$ grain of Cocaine, and $\frac{1}{200}$ grain Homatropine with $\frac{1}{200}$ grain of Cocaine in each respectively.

The mydriatic and general physiological properties of the Hydrobromate of Homatropine resemble, but in a weaker degree, those of atropine, excepting that it slows the heart's beats and renders them irregular in force and rhythm.—L. i./80,795.

Action in checking night-sweating inferior to atropine and picrotoxin. Large doses cause staggering gait, like atropine.—Pr. xxv.252.

It enlarges the pupil and paralyzes the ciliary muscles as quickly and thoroughly as an equally strong solution of atropine; but the effects of Homatropine disappear entirely in twelve to twenty-four hours, while the effect of atropine continues for many days, and while it lasts the patient is disabled from reading and writing.—B.M.J. i./82,523.

Homatropine oil recommended in preference to atropine in estimating lesions of refraction; inconvenience of mydriasis may be partially overcome by eserine solution.—M.T.G. ii./85,73.

AURI ET SODII CHLORIDUM.

Chloride of Gold and Sodium.

(Codex and U.S.)

Dose.—$\frac{1}{30}$ to $\frac{1}{12}$ increased to $\frac{1}{2}$ grain in a pill.

An orange-yellow crystalline, deliquescent powder, soluble 1 in 2 of water; only partially soluble in alcohol. The preparation of the codex contains a molecule of each of chloride of gold and chloride of sodium, combined as a double salt. The U.S. preparation is a mixture of equal parts by weight of the two salts; it therefore contains about one-third less gold. It is sometimes used as a caustic, and given internally for syphilis.

Auri Bromidum. Bromide of Gold, Auric Bromide.

Dose.—$\frac{1}{60}$ to $\frac{1}{10}$, increased to $\frac{1}{5}$ grain, well diluted.

A dark brown, non-deliquescent powder, soluble in water and ether.

In epilepsy and migraine, tolerated better than other bromides, though too large doses determine a not severe cephalagia without somnolence. Effects are durable, epileptics who have taken it sometimes remain for years free from attacks.—Repertoire de Pharmacie, April 10, 1889,163.

BALSAMUM GURJUNÆ.

Gurjun Balsam; Wood Oil.

Dose.—½ to 2 drachms.

A viscid balsam obtained from the trunk of the growing tree *Dipterocarpus turbinatus* and other species of this genus; imported from the East Indies. It is very fluorescent, has an opaque dingy, greenish grey colour seen by reflected light, yet is transparent and reddish brown in strong daylight; it has the weak aromatic odour and bitterish aromatic taste of copaiba without the acridity—has been used as an adulterant of copaiba. It is not completely soluble in either ether or alcohol; emulsified with mucilage of acacia, it is used with success like copaiba, for gonorrhœa; and, in the East, as a remedy for leprosy, an emulsion is made of equal parts of the balsam and lime, water, which is used freely as a liniment and given to the extent of 4 drachms three times daily.

BAPTISIN.

Dose.—1 to 5 grains in a pill with mucilage of acacia. The purified extract of wild indigo, *Baptisia tinctoria*, powdered; of a light brown colour.

Is a mild laxative in small doses, and a powerful emetic and cathartic in large.

It is a moderately powerful hepatic and intestinal stimulant on dogs.—Pr. xxiii.337; B.M.J.ii./78,909.

BEBERINÆ SULPHAS.

Sulphate of Beberine (*Off.*).

Dose.—1 to 10 grains, in pills, with glycerine of tragacanth, or in aqueous solution (addition of aromatic sulphuric acid to this makes it agreeable in taste).

Is probably a mixture of the sulphates of beberine, nectandrine, and other alkaloids obtained from Bebeeru bark, the bark of *Nectandra Rodiæi*, or greenheart-tree. Prepared according to the Pharmacopœia, it is in dark brown, thin, translucent scales with strong, bitter taste, soluble 1 in 30 of water, slightly in spirit. A Hydrochlorate of Bebcrine is also prepared, possessing similar properties and having a similar appearance. The pure salts crystallize with difficulty.

Used as a substitute for quinine in neuralgia, and as an antiperiodic. Very useful also in menorrhagia, 4-grain doses often repeated.—L. i./45,500 ; L. i./64,458 ; P.J. 1867,27.

BELLADONNA.

Deadly Nightshade (*Off.*).

The official preparations of *Atropa Belladonna* are made from the dried root, the dried leaf, and the extract from the fresh leaves and branches. The general properties of belladonna in dilating the pupil, and as a narcotic, applied externally or taken internally, are well known. Externally, its preparations are applied to relieve rheumatism, neuralgia, and as a general local sedative for pain. Internally, either alone or in combination with aloes, or sometimes with dried sulphate of iron, $\frac{1}{6}$ to $\frac{1}{4}$ grain of the extract is much used for habitual constipation. It checks, and even suppresses, the secretions of the glands, causes dryness of the throat and of the skin, checks night-sweats, secretion of milk, nocturnal incontinence of urine in children and nocturnal emissions. Large doses produce delirium, a scarlatina rash on the skin, the face becomes flushed, and muscular power is weakened.—R. As a prophylactic to scarlet fever, 10 grains of extract of belladonna, dissolved in 6 ounces of water, is given in teaspoonful doses.

All parts of the plant yield the alkaloids atropine and hyoscyamine.

Atropina.—See p. 64.

Chloroformum Belladonnæ, B.P.C.

Belladonna Root, bruised ...	20 ounces.
Strong Solution of Ammonia ...	$1\frac{1}{2}$,,
Distilled Water	20 ,,
Chloroform	*q.s.*

Macerate the belladonna with the ammonia and water, previously mixed, for 4 hours, dry, and reduce to No. 40 powder. Macerate for 24 hours with 20 ounces of chloroform in a percolator provided with a tap, then percolate slowly, adding more chloroform until 30 ounces are obtained.

Mixes with oils; 1 to 3 olive oil is useful for painful rheumatic affections.

Emplastrum Belladonnæ (*Off.*).

Alcoholic Extract of Belladonna, 1; Resin Plaster, 2; Soap Plaster, 2.

Melt the plasters in a water-bath, add the extract, and mix well. Is reddish-brown in colour, cleaner while worn, and stronger than the old preparation.

Emplastrum Belladonnæ Extensum (*American*).

Belladonna plaster in rubber combination spread on calico in porous sheets 7 in. by 5 in. and in yard rolls 7 in. wide, porous and non-porous.

Is efficacious, pliable, keeps well, and does not "run."

Similar plasters are also prepared with belladonna and aconite combined.

Plaster mulls are spread containing 30 per cent. of **Extract of Belladonna.**

Extractum Belladonnæ (*Off.*).

Dose.—$\frac{1}{6}$ to $\frac{1}{2}$ grain, may be increased to 2 grains or more.

A green extract prepared from the expressed juice of leaves and young branches.

Extractum Belladonnæ Alcoholicum (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain, or more.

An alcoholic extract prepared by exhausting 1 of root in No. 20 powder with rectified spirit $2\frac{1}{2}$, displacing with water, and evaporating the percolate to an extract; it is about five times as strong as the green extract of the leaves and branches, and is useful for making belladonna plaster, suppositories, and pessaries.

Fomentum Belladonnæ R.O.H.; Midd. H.

Green Extract 60 grains to Distilled Water 1 pint. Used hot.

Glycerinum Belladonnæ.

Extract of Belladonna ...	1 ounce
Boiling Distilled Water ...	1 drachm or *q.s.*

Rub together in a warm mortar to produce a smooth paste, and add

Glycerine	1 ounce.

To check pain and inflammation, is often painted on boils, abscesses, and carbuncles, and, covered with a poultice, also applied on lint to the breasts to disperse the milk. The Royal Ophthalmic Hospital Pharmacopœia orders 3½ ounces of glycerine to the ounce of extract.

Linimentum Belladonnæ (*Off.*).

Prepared by percolating 20 ounces of powdered belladonna root with rectified spirit, dissolving in the percolate 1 ounce of camphor, and obtaining 30 ounces of liniment. A useful topical sedative for neuralgia and rheumatic pains.

Poisoning by above, pilocarpine an antidote.—B.M.J., i./81,594; i./90,420.

Linimentum Belladonnæ Compositum

Liniment of Belladonna ...	7 ounces.
Chloroform of Belladonna ...	1 ounce.

Sprinkled on impermeable piline or the textile side of American oiled cloth, and applied constantly, relieves lumbago.

Pilula Quininæ cum Belladonna, R.O.H.

Extract of Belladonna ⅛ grain, Sulphate of Quinine 1 grain, Confection of Roses, *q.s.*

Pulvis Hydrargyri cum Creta, et Belladonnæ, R.O.H.

Mercury with chalk, 2 parts; Belladonna Leaves, in powder, 1 part; Sugar, in powder, 2 parts. Mix. *Dose.*—5 grains.

Succus Belladonnæ (*Off.*).

Dose.—2 to 15 minims,

Expressed juice of leaves and branches with one-third of rectified spirit added.

Is about three times the strength of the tincture.

Hay fever relieved by one minim every hour.—B.M.J. i./83,69.

Suppositorium Belladonnæ.

Extract of Belladonna Root...	½ grain.
Oil of Theobroma	15 grains.

Often ordered to be made with the green extract, but it is almost impossible to get sufficient of this to combine with the basis to be of service. Pessaries may also be made with the extract of the root containing ½ to 1 grain in each.

Tinctura Belladonnæ (*Off.*).

Dose.—5 to 20 minims; contains 1 of leaves in 20 of proof spirit.

Full doses are very useful for incontinence of urine.—B.M.J. i./85,279.

An antidote to opium poisoning.—Th. Gaz. April, 1889,241.

Unguentum Belladonnæ (*Off.*).

Alcoholic extract 1 part to 9 parts of benzoated lard.

Berberina.—See p. 211.

BISMUTHUM.

Bismuth (*Off.*).

Bismuthum Purificatum (*Off.*).

Is purified from other metals by first fusing with a mixture of cyanide of potassium and sulphur, and then with a mixture of dried carbonates of sodium and potassium.

Bismuthi Carbonas, Carbonate of Bismuth (*Off.*). *Syn.*—OXYCARBONATE OF BISMUTH.

Dose.—5 to 20 grains.

Pastillus Bismuthi Carbonatis (3 grains) **cum Morphinæ Acetate** ($\frac{1}{40}$ gr.) See p. 196.

Bismuthi Citras, Citrate of Bismuth (*Off.*).

Dose.—2 to 5 grains.

Is prepared by adding a solution of citrate of sodium to a solution of true nitrate of bismuth as long as any precipitate is formed. The mixture is boiled and filtered, and the precipitated citrate of bismuth washed and dried. 800 grains of it is dissolved in weak solution of ammonia *q.s.* to form one pint of

Liquor Bismuthi et Ammonii Citratis (*Off.*).

Dose.—½ to 1 drachm.

Contains 5 grains of citrate = 3 grains of oxide of bismuth in 1 drachm. It is freed from the nitric acid contained in the old preparation, but it is apt to become fungoid. Evaporated to a syrupy consistence and spread on glass and dried, it produces soluble small shining translucent scales of

Bismuthi et Ammonii Citras (*Off.*).

Dose.—2 to 5 grains.

Bismuth Hair Dye.—Perfectly harmless.

Add Tartaric Acid 75 grains, dissolved in water 100 minims, to crystallized Nitrate of Bismuth (not Subnitrate) 230 grains, dissolve and pour into a pint of Water. Mix well and pour the magma on a filter, wash it with more water till no longer acid; then dissolve it by adding strong Solution of Ammonia, 2 drachms; add Glycerine, 20 minims, and Hyposulphite of Sodium, 75 grains, dissolve and add water to measure 4 ounces. This colourless and inodorous liquid gives a deep chestnut colour to white hair after daily repeating a few times. The hair should be washed first.

Bismuthi Oxidum (*Off.*). *Dose.*—5 to 15 grains.

Is prepared by boiling subnitrate of bismuth in solution of soda, washing and drying the deposited dull lemon-yellow-coloured oxide of bismuth.

Bismuthi Oxychloridum, Oxychloride of Bismuth. *Dose.*—5 to 20 grains.

Is prepared by adding an acid solution of trichloride of bismuth to water, or by mixing a solution of true nitrate of bismuth with a solution of common salt. The basic oxychloride precipitated is well washed with water and dried. It forms the pigment known as "pearl white," and is much used as a cosmetic, to make "blanc de perle," &c. It gives a white pearly gloss to the skin. If carefully prepared, it is an impalpable, neutral, unirritating powder, and for many purposes should be preferred to the B.P. subnitrate (which is acid and crystalline), carbonate, or oxide. Even for internal administration, if most of the action of bismuth preparations be due to the mechanical coating they give to the irritated parts of the stomach or bowels, the oxychloride should be preferred, as, besides being an impalpable powder, it is a very insoluble one. It coats and adheres to the mucous membrane, and is very useful in irritated conditions of the mouth, throat, vagina, and rectum. From a quarter to half a grain may be used as an insufflation to the larynx.

Pessaries or **suppositories** may be made with oil of theobroma, containing 10 grains of the oxychloride in each.

Unguentum Bismuthi Oxychloridi.

Oxychloride of Bismuth	...	30 grains.
Vaseline	...	1 ounce.

Mix. Is useful for anointing the speculum previous to vaginal examinations.

Bismuthi Oxyiodidum, Oxyiodide of Bismuth. *Dose.*—5 to 10 grains.

A brownish red light amorphous powder, without taste or smell, insoluble in water, alcohol, or ether. Has been applied as an antiseptic to ulcerous sores in place of iodoform, and injected in suspension in 100 parts of water for gonorrhœa; also as an ointment for rectal affections. Internally given for ulcer of the stomach. B.M.J. i./89,783.

Bismuthum Peptonatum.

Dose.—80 grains, more or less.

A dry, brown powder, which contains 3·5 per cent. of oxide of bismuth in a soluble form.

Bismuthi Salicylas, Basic Salicylate of Bismuth.—*Dose.*—5 to 20 grains.

A white or pinkish-white powder, obtained by the decomposition of true nitrate of bismuth and a solution of salicylate of sodium; is insoluble in water, alcohol, and glycerine. Has been used with advantage in some forms of diarrhœa, typhoid fever, &c.—P.J. 1883,243, 568; 1885,889; L. i./88,1100; Th. Gaz. Dec. 1888, 840.

Valuable remedy for gastric catarrh.—L. ii/86,31.

Bismuthi Subnitras (*Off.*).

Syn.—OXYNITRATE OF BISMUTH.

Dose.—5 to 20 grains.

Is prepared purest by adding to a quantity of water the large crystals of true nitrate of bismuth, obtained by concentrating a solution of bismuth in nitric acid and setting aside to cool; many impurities remain in the mother liquor. The subnitrate, deposited as above, is washed, pressed, and dried. To obtain a fine powder, it is afterwards generally levigated. It should be remembered that this preparation from its nature is always *acid* in reaction; it is therefore incompatible with alkaline carbonates—many bottles of medicine so prescribed burst in transit.

Trochisci Bismuthi (*Off.*).

Contains 2 grains subnitrate of bismuth in each, with about 2½ grains of carbonate of magnesium and 4 of carbonate of calcium—incompatible.

Pulvis Bismuthi Compositus (Ferrier's Snuff).

Hydrochlorate of Morphine...	2 grains.
Powdered Acacia	2 drachms.
Subnitrate of Bismuth ...	6 „

Mix. From a quarter to one-half the above to be used as snuff in 24 hours.—L. i./76,525.

BROMAL HYDRAS.

Hydrate of Bromal.

Dose.—2 to 5 grains—3 grains at bedtime for relieving pain or producing sleep.

In large oblique colourless prisms, which melt on the hand, and are not quite so soluble or readily soluble in water as chloral hydrate. Applied externally to the skin, it causes irritation and great infiltration of the tissue, as when dry cupping-glasses are used. It is not suitable for internal exhibition, as it causes pyrosis, vomiting, and diarrhœa.—B. & F. M. Ch. Rev. i./72,509.

It is much more active physiologically than chloral hydrate. Of the latter it required 20 grains to cause the death of a rabbit, whereas 4 or 5 of bromal hydrate are quite sufficient to kill one of the same weight.—B.M.J. ii./74,805.

In epilepsy, tried without success.—Stillé and Maisch.

Relieves inflammatory fever of acute gout.—B.M.J. ii./88,151.

Bromoform. *Dose.*—5 to 20 "drops" per diem. A limpid, sweet liquid, with an agreeable odour; sp. gr. 2.13. Soluble in alcohol and ether, slightly so in water. Useful in whooping-cough.—L. ii./89,397.

BRUCINA.

Brucine.—*Syn.* Brucia.

Dose.—$\frac{1}{12}$ grain increased up to ½ grain.

An alkaloid obtained along with strychnine from the seed of *Strychnos Nux-vomica*, and other species of Strychnos. In small white acicular crystals, with bitter taste. Very soluble in alcohol, soluble 1 in 100 of chloroform, 1 in 850 of cold water. Its salts are more soluble in water. It, as well as morphine, gives an intense red colour with nitric acid, which strychnine, if pure, does not. Brucine is difficult to obtain perfectly free from strychnine. It is said to possess only $\frac{1}{24}$ the physiological power of strychnine.—P.J. 1877,652,666.

For epilepsy, has curative properties, given as liquor, same strength as liquor strychninæ, 10 minims twice a day, increased every third day by 5 minims, until half a grain is reached.—L. i./69,75.

Note on physiological action.—L. i./83,30.

BRYONIA.

Bryony.—*Syn.* VITIS ALBA; WHITE BRYONY.

Tinctura Bryoniæ, B.P.C.

From bruised fresh roots of *Bryonia alba* or *B. dioïca* a tincture is prepared corresponding in strength, to 1 of dried root to 10 of proof spirit.

Dose.—1 to 10 minims or more.

Useful in pleurisy. Given in small doses, it relieves the pain and allays the cough. In large doses it is as active hydragogue cathartic, sometimes used for dropsy. The fresh plant applied to the skin will cause vesication. It contains Bryonin, a bitter principle, soluble in water and alcohol, insoluble in ether.

Bryony successful as a styptic. An infusion of 1 in 10 arrested metrorrhagia.—L. ii./88,438.

Bryonia Alba as a styptic.—Nouv. Remèdes; 1889, Nov. 576.

Byne. See Maltum, p. 245.

BUTYL-CHLORAL HYDRAS.

Hydrate of Butyl-Chloral (*Off.*).—*Syn.* CROTON-CHLORAL HYDRATE, wrongly so called.

Dose.—2 to 15 grains or more.

In pearly-white crystalline scales, having a pungent odour resembling that of Chloral Hydrate, and an acrid, nauseous taste. Soluble 1 in 100 of cold water; freely soluble in rectified spirit, and about 1 in 4 of glycerine.

It is, perhaps, the most efficacious remedy in facial neuralgia.—R.

Menthol 2, with Butyl-Chloral Hydrate 1 part liquefies.—See p. 249. Combines with Antipyrin, see p. 121.

Mistura Butyl-Chloral, T.H.

Hydrate of Butyl-Chloral ...	4 grains.
Glycerine	15 minims.
Water ... ... to	1 ounce.

This dose is very useful as an anodyne in neuralgic affections of the throat, frequently repeated.

Pilula Butyl-Chloral.

Hydrate of Butyl-Chloral ...	3 grains or more.
Glycerine of Tragacanth, or	
Mucilage of Acacia	*q.s.*

To make one pill.

Dose.—1 every 2 hours, or hourly.

Pilula Butyl-Chloral cum Gelsemina.

Hydrochlorate of Gelsemine $\frac{1}{200}$ grain, is added to each of the above and, for facial neuralgia, given similarly.

Syrupus Butyl-Chloral, B.P.C.

Hydrate of Butyl-Chloral ...	16 grains.
Syrup	1 ounce.

Dissolve the hydrate in the syrup made hot.

Dose.—One to four drachms repeatedly.

Relieves paroxysmal neuralgic pains in the regions supplied by the fifth nerve.—L. ii./72,558.

For toothache of pregnancy and neuralgic toothache, doses of 5 to 15 grains internally; and used also locally.—Pr. xix.382.

It produces slumber without the lowering of the pulse, which chloral itself causes. Dose, 5 to 15 grains.—Br. i./75, 336.

Cured cases of paroxysmal headache in females suffering from mental distress and facial neuralgia; useless in pain from decayed teeth.—B.M.J. i./79,667.

CAFFEINA.

Caffeine (*Off.*). *Syn.*—CAFFEIA, THEINA, GUARANINA.

Dose.—$\frac{1}{2}$ to 5 grains or more—as much as 18 grains being recommended—given in solution, or in pills with glycerine of tragacanth.

A crystalline principle usually obtained from the dried leaves of *Camellia thea*, or dried (?) coffee-seeds—*Coffea Arabica*; also contained in guarana (p. 200), maté,—the leaves of *Ilex Paraguayensis*—and kola nuts—the seeds of *Sterculia acuminata*, growing in Western Africa; it is identical with Theine and Guaranine. Caffeine and Theobromine (see p. 369) can be prepared from Xanthine (the latter being di- and Caffeine tri-methyl-xanthine) and indirectly from guano, as Xanthine may be obtained as a derivative of Guanine contained in guano. Caffeine is in slender needles like white silk, is soluble 1 in 100 of water, 1 in 25 of rectified spirit; is insoluble in absolute alcohol, but soluble in ether; acids render it more soluble in water, but it is a feeble base, and on concentrating the solution of the salts they are apt to split up, and the caffeine crystallizes out by itself. It has a bitter, not agreeable taste. It stimulates the heart and raises arterial tension. In excessive doses it causes rise of temperature, convulsions, and paralysis. It is given for hemicrania. Locally, to the eye, it dilates the pupil.

Tea contains on an average 4 to 4½ per cent. of Caffeine; raw coffee about 1·2 per cent., and when roasted about 1·3 per cent.—P.J. 1887,417,565.

Caffeinæ Citras (*Off.*).

Dose.—½ to 5 grains or more.

Is directed to be prepared by dissolving caffeine 1 and citric acid 1 in distilled water 2, evaporating to dryness on a water bath, stirring constantly towards the end of the operation, and reducing to a fine powder.

This Citrate was formerly met with in opaque white needle-like crystals or masses of crystals; it was a doubtful salt.

Caffeine Tablets contain 1 grain of the citrate.

Granular Effervescent Citrate of Caffeine is prepared, containing a grain in a drachm, and

Granular Effervescent Citrate of Caffeine, with Bromide of Potassium, has in addition 2 grains of the latter salt to the drachm.

Caffeinæ Ammonio-Citras. *Dose.*—1 to 10 grains. A minutely crystalline white powder, slightly soluble in water.

Caffeinæ Hydrobromas.

Dose.—½ to 5 grains or more.

In short acicular crystals, shorter than the citrate.

Granular Effervescent Hydrobromate of Caffeine is prepared, containing a grain in a drachm.

Caffeinæ Sodio-Salicylas.

Dose.—1 to 4 grains hypodermically.

A white amorphous powder, containing 62·5 per cent. of caffeine, and soluble 1 in 2 of water. This salt and the corresponding cinnamate and benzoate are preferred in Berlin; they act like digitalis, but more rapidly.—Edin. Med. Jour., 1884,390.

Caffeine is very soluble in aqueous solutions of benzoate, cinnamate, and salicylate of sodium. These dissolve it in chemically equivalent quantities. The following salicylate of sodium solution of it forms an unirritating hypodermic injection.

Injectio Caffeinæ Hypodermica.

Caffeine...	... ...	20 grains.
Salicylate of Sodium	...	17½ grains.
Distilled Water to	...	1 drachm.

Dose.—1 to 6 minims, contains 1 grain in 3 minims. Particularly recommended for alcoholic and morphine intoxication, also for hemicrania. Use in Eucalyptus poisoning.—B.M.J. i./88,849.

Hypodermic Lamels are prepared, containing ¼ grain Caffeine in each.

Caffeinæ Sulphas. *Dose.*—½ to 5 grains or more. A minutely crystalline white powder, soluble about 1 in 40 of water.

Caffeinæ Tri-iodidum. *Dose.*—2 to 4 grains. In prismatic iridiscent crystals, rich in iodine.

Caffeinæ Valerianas. *Dose.*—½ to 3 grains. In irregular crystals or powder, having the odour of valerian.

Caffeine is a tonic and stimulant; it has the effect of quinine with wine, with this advantage, that it is followed by no depression.—M.T.G. i./75,185.

It has an opposite effect to quinine on the temperature. Large doses raise it.—M.T.G. ii. 78,604.

Antagonism between caffeine, theine, guaranine, cocaine, as well as tea and coffee, and morphine and opium.—B.M.J. ii./74,615,674,697,771.

Useful in cardiac disease, especially where dropsy is a marked symptom. Is apt to induce insomnia. Large doses are required. It is better borne than digitalis.—L. ii./82,909; i./83,909; B.M.J. i./80,443.

In epileptic vertigo, after 1 to 3-grain doses three times a day, attacks cease.—Pr. xxx.105.

Theine, caffeine, and guaranine are chemically and physiologically identical. Excessive doses produce in animals paralysis of sensibility, tetanic spasm, and convulsions.—R.

A stomachic tonic, lessens tissue change, and waste. Has been given in cases of diarrhœa, phthisis, and neuralgia.—B.

Useful in unilateral headaches in doses varying from 1½ grain to 18 grains.—Binz.

Is a diuretic, and relieves cardiac dropsy in cases where a feeble, dilated, and irregularly contracting heart is undergoing progressive mural decay. Dose, 3 to 6 grains.—Pr. xxii.23.

Combined with paraldehyde, for diuretic uses in heart disease.—C. and D., 1887,242

Mitral obstructive disease relieved by caffeine combined with convallaria.—L. ii./87,202.

Poisonous effects of 18 grains of caffeine citrate relieved by atropine and whiskey.— P.M.J. Jan. 1886,37.

A grain and a half of the valerianate three times a day checks nervous vomiting in hysteria. It increases appetite and nerve power. Is useful for pertussis.—M.R. 75,295.

Hydrobromate of caffeine is a diuretic, used hypodermically, and the citrate gives great relief in cardiac dropsy.—M.T.G. ii./77,662.

Is tonic and restorative, relieves a palpitating adynamic heart. One grain doses given for hemicrania and neuralgia. An ordinary cup of tea probably contains $\frac{1}{10}$ grain of Caffeine.—M.T.G. ii./81,33.

1 to 5 grains in a cup of coffee relieve bronchial asthma.—L. i./79,220.

Caffeine acts on the heart in large doses like digitalis, but is apt to produce insomnia and nervousness.—L. ii./82,909; Pr. xxxiii.218; Pr. xxxiv.139.

Poisoning by 60 grains of citrate caused burning in throat, giddiness, violent vomiting, purging and diuresis, tremors of extremities, pain in stomach and bowels, and great thirst. Recovery: treated with nitro-glycerine, &c.—L. i./83,680. Poisoning by 200 grains; recovery under $\frac{1}{12}$ grain apomorphine.—L. i./89,219; Th. Gaz. Mar. 1889,215.

Filehne's latest researches on caffeine and its congeners.—Th. Gaz., 1886,628.

Caffeine useful in pneumonia as a cardiac stimulant; pulse improves and temperature falls.—B.M.J. ii./88,43. Also in typhoid.—Pr. xli. 138.

Calamina Præparata (*Off.*).—See p. 240.

CALCII CHLORIDUM.

Chloride of Calcium (*Off.*).

Dose.—10 to 20 grains in aqueous solution, or it is more palatable made into pills with syrup; these must be kept in bottles.

According to the pharmacopœia chloride of calcium, anhydrous and most convenient for use in medicine, is in fused white agglutinated masses, dry, but very deliquescent. The porous dried chloride is better adapted for chemical purposes for absorbing water. Crystals of chloride of calcium are very deliquescent and unmanageable, as they dissolve in one-fourth their weight of water. Chloride of calcium is given in tubercular disease and glandular affections. It is not astringent. It has been recommended as a disinfectant.

Liquor Calcii Chloridi (*Off.*).

Dose.—15 to 50 minims; is 1 to 5 of distilled water.

Chorea, eight cases in children, cured by doses of 7 to 15 grains daily.—M.T.G. ii./75,663.

In tubercular diseases, phthisis and all wasting diseases of children, has great power in controlling. For adults, 30 grains three times a day.—L. ii./77,275.

It is said to check the growth of uterine fibroids, some think it tends to cure them by aiding a process of calcareous degeneration.—L. ii./73,1.

In sarcinæ, the vomiting is checked by 30 to 60-grain doses.—M T.G. i /60,401.

In scrofula, is a valuable general tonic, slows and strengthens the pulse; best given to children in milk, after food.—Pr. xxxiv.161.

Essay on this drug.—P.M.J.Dec.1885,499.

CALENDULA.

Marigold.

From the fresh leaves and flowers of this plant, *Calendula officinalis*, a Tincture is prepared equal in strength to 1 of the dried drug in 10 of equal parts rectified spirit and water.

A lotion prepared from the tincture diluted, or an ointment prepared from tincture 1 part, and spermaceti or simple ointment 9 parts, is said to have a beneficial influence over wounds, especially incised wounds. It promotes cicatrization, with but little suppuration.

One minim of tincture with boric acid 2 to 4 grains is a useful insufflation in otorrhœa.—Pr. xxx.366.

Tinctura Calendulæ Florum, B.P.C.

Dose.—5 to 20 minims.

Marigold Flowers, in No. 20 powder ... 4 ounces.
Proof Spirit ... ... *q.s.* to 1 pint.

Moisten the powder with 8 ounces of spirit, macerate 24 hours, and percolate to 1 pint.

CALX SULPHURATA.

Sulphurated Lime (*Off.*). *Syn.* — CALCII SULPHIDUM; SULPHIDE OF CALCIUM; CANTON'S PHOSPHORUS.

Some forms of it after being heated shine in the dark and are used to make luminous paint.

Dose.—$\frac{1}{10}$ to 1 grain in a pill.

A mixture containing not less than 50 per cent. of true Monosulphide of Calcium. It is directed to be prepared by deoxidizing Sulphate of Calcium, by mixing it with wood charcoal and heating the mixture in a crucible until the black colour disappears. The residue when powdered has a dirty white colour and slight sulphuretted odour; it is but sparingly soluble in water, which solution quickly decomposes, evolving sulphuretted hydrogen. In thus liberating this gas, sulphide of calcium possesses properties allied to the sulphurous springs of Harrogate, Barèges, Gilsland, &c. It is found very useful administered for boils, carbuncles, acne, scrofulous sores, especially in glands of the neck, by hastening maturation and preventing formation of fresh boils, &c. For boils, &c., $\frac{1}{10}$ grain is given every hour. For suppurating glands in the neck,

½ to 1 grain every two hours, continued for weeks, is very beneficial.—R.

Pilula Calcis Sulphuratæ, $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, and 1 grain.

These pills are best prepared by triturating the sulphurated lime with sugar of milk, adding glycerine of tragacanth *q.s.*, rolling into pilules and coating with sandarach solution. Keep in bottles.

Dose.—1 every hour, or every 2, 4, or 6 hours as above, according to the state of the disease, whether acute or not.

On the addition of a dilute acid to sulphurated lime mixed with water, it gradually evolves sulphuretted hydrogen, and may be made use of for producing artificial sulphurous waters. The following imitates Aix-les-Bains water. Temperature 108° F.

Aix-les-Bains Water (Artificial).

Sulphate of Sodium ...	2 grains.
Sulphate of Magnesium ...	1 grain.
Sulphate of Aluminium ...	1½ grains.
Chloride of Sodium ...	½ grain.
Carbonate of Calcium, precipitated	2 grains.
Sulphurated Lime	3 grains.
Diluted Hydrochloric Acid	10 minims.
Water 108° F.	32 ounces.

Used for douching, baths, &c.

References.

Cases of acne of the face cured by ¼ to ½ and 1 grain doses 3 to 6 times a day.—L. ii./78,215.

Useful in boils and skin affections, also in diphtheria and croup—the false membrane is detached and expelled. L. i./82,296; Pr. xlii.211.

In cancer of the breast 3 cases, after operations and 3 or 4 months' treatment by grain doses of the sulphide, recovery was rapid.—L. ii./82,832.

In strumous ophthalmia, 5 cases, doses of $\frac{1}{10}$ to ¼ grain effected cures.—Pr. xxviii.17.

In periostitis and alveolar abscesses found of great service.—Stocken's Dental Mat. Med., 2nd ed., 143.

Usual dose is too small for boils; give 1 grain three times a day, increased to 8 grains daily.—L. i./85,64.

Endemic elephantiasis of Ceylon, worth a trial for. B.M.J.ii./87,1402.

Suggested use in diabetes.—L. i./88,868.

Lotio Calcii Sulphurati, U.C.H.

Slaked Lime	4 ounces.
Sublimed Sulphur	4 ounces.
Distilled Water	35 ounces.

Boil together, evaporate, and filter, to produce pint of solution. This should be diluted with an equal quantity of warm water for painting over the patient, who ought previously to have had a bath, as a remedy for itch, which it will cure in half an hour. It holds in solution pentasulphide of calcium with some oxysulphide, and resembles in composition **Vlemingkx' Solution.**

Sulphurated Lime Depilatory.

Is a thick milk of lime charged with sulphuretted hydrogen. A less unpleasant, but equally efficacious, application is

Sulphide of Barium Depilatory.

Sulphide of Barium, in fine powder	1 part
(Or less or more, up to 3 parts, if ordered).	
Starch Powder	3 parts.

Make into a cream with water. When required for use, spread it on the part and let it remain five or ten minutes, then remove with a blunt knife. N.B.—It temporarily reddens the skin.

Syrupus Sulphatum (H. P. Symonds).

Dose.—½ an ounce. Sulphate of Beberine, 1 grain; Sulphate of Quinine, 2½ grains; Sulphate of Iron, 2½ grains; Sulphate of Potassium, 8 grains; Sulphate of Sodium, 8 grains; Diluted Sulphuric Acid, 5 minims; Glycerine, 12 minims; Distilled Water, 48 minims. Dissolve, and add Syrup to ½ ounce. Filter. Add to each pint, Chloroform 10 minims, mixed with 20 minims of Spirit.

Is useful for boils, &c. The sulphates give off some sulphuretted hydrogen, and the bases act as tonics.

Pilulæ Sulphatum.

The salts of half-an-ounce of the above syrup may be prescribed in two pills under this name.

CAMPHORA.

Camphor (*Off.*).

Dose.—1 to 10 grains in a pill, or alcoholic solution dropped on sugar or in water, or as camphor water. Camphor, besides being sold in bells, is now prepared in rectangular blocks, as well as in a sublimed powder, **Flowers of Camphor.** The latter is a very convenient form for making pharmaceutical preparations.*

Camphor is soluble in water, 1 in 1,300 (more is dissolved if kept slightly warm), in rectified spirit 1 in 1¼ (more soluble in absolute alcohol), freely soluble in ether, chloroform, volatile and fixed oils. Camphor, when mixed in certain proportions with many crystalline substances, causes mutual liquefaction of the two—*e.g.*, camphor 4, phenol 12, and water 1 (see Acidum Carbolicum); camphor 1, and chloral hydrate 1 (see Chloral Hydras); camphor 2 and menthol 3 (see Menthol); camphor 1 and thymol 1 (see Thymol); camphor 2 and β-naphthol 1 (see naphthol); camphor 2 and salol 3 (see salol); camphor and butyl-chloral hydrate liquefy when heated, but solidify on cooling; so will camphor 84 and salicylic acid 65 (see Camphora Salicylata). Camphor is powdered by rubbing with a few drops of spirit. Besides the official preparations, camphor water† (camphor mixture) 1 in 1,000 to 1,300, liniment 1 to 4, compound liniment 1 to 8, spirit 1 to 9, and compound tincture 1 in 240, the following are in use:—

Camphor Ball.

Spermaceti, cut small	...	4 ounces.
White Wax ,,	...	12 ounces.

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* An Essential Oil of Camphor is imported from Japan, generally of a pale straw-colour but varying in shade to a deep black. It has Sp. Gr. 0·898 to 0·990; is a bye-product obtained in the production of camphor, and consists principally of a terpene, with about 1 in 4, or a variable quantity, of the stearoptene, camphor in solution. It has a persistent odour, like that of camphor and sassafras or cinnamon. Similar productions have at times come from Formosa and Borneo. They are used by the Chinese as rubefacients in rheumatism, and may prove useful as antiseptics.—P.J. 1885,302; 1887,266.

† Aqua Camphoræ is uncertain in strength. The water dissolves much more of the camphor if kept in a slightly warm place. A definite quantity of camphor, dissolved in

Oil of Almonds	5 ounces.

Melt in a water bath, and add

Flowers of camphor ...	4 ounces.

Dissolve, and when nearly cold pour into boxes or mould in gallipots. Useful for chapped skin.

Camphora Monobromata.—See p. 91.

Camphora Salicylata.—See p. 92.

Camphorated Chalk.

Flowers of Camphor	1
Precipitated Carbonate of Calcium	7

Mix in a mortar, adding a few drops of rectified spirit, and sift for use as a dentifrice.

Carbolate of Camphor.—See p. 8.

Elixir Camphoræ.

Dose.—½ to 1 drachm.

Spirit of Camphor ...	10 drachms.
Syrup	5 drachms.
Distilled Water	1 drachm.

Mix. Contains 4 grains of camphor in 1 drachm. It mixes and diffuses well in water.

Flowers of Camphor.—See p. 89.

Naphthol cum Camphora.—See p. 263.

Pilula Camphoræ.

The most suitable excipient to form camphor into pills is about ⅓ its weight of powdered curd soap and a few drops of proof spirit, or a little lard in a warm mortar.

Pilules and lozenges of camphor are prepared by confectioners, of uncertain strength.

Salol cum Camphora.—See p. 30.

Spiritus Camphoræ Fortior.

Syn.—RUBINI'S SOLUTION OF CAMPHOR.

Dose for Diarrhœa.—2 to 5 drops on sugar every 5, 10, or 15 minutes, according to the severity of the symptoms.

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a small but certain quantity of spirit, and this added to a measured quantity of water, would make a more uniform preparation. It is rendered more soluble in water by the presence of carbonic acid, acid carbonate and carbonate of magnesium, sugar, and myrrh, and less soluble by bromide of potassium, liquor potassæ, sulphate of magnesium, alkaline carbonates, and many other salts.

Flowers of Camphor... ...	1 ounce.
Absolute Alcohol (by weight)	1 ounce.

Dissolve. Produces slightly over 2 fluid ounces, and contains nearly 1 grain in 2 minims.

CAMPHORA MONOBROMATA.
Monobromated Camphor.

Syn.—MONOBROMIDE OF CAMPHOR.

Dose.—2 to 10 grains in pills, with $\frac{1}{3}$ of its weight of curd soap and proof spirit *q.s.*

A substitution compound in which one atom of hydrogen in camphor is replaced by bromine. In colourless prisms, soluble in ether, alcohol, and fixed oils, insoluble in water. It has a slight odour of camphor and a turpentine-like taste. It is used as a hypnotic; large doses produce clonic convulsions and muscular trembling.

Perles are prepared containing about 2 grains in each. The following is also recommended, but it is strongly alcoholic and very nauseous:—

Elixir Camphoræ Monobromatæ.

Monobromated Camphor ...	20 grains.
Spirit of Cinnamon (1 in 50)	15 drachms.
Dissolve and add	
Red Elixir...	20 drachms.
Syrup *q.s.* to	5 ounces.

Dose.—$\frac{1}{2}$ an ounce (contains 2 grains).

References.

Experiments on animals. It lowers circulation, respiration, and temperature.—Pr. xiii.113.

Not suitable for asylum practice, on account of its comparative insolubility in any but irritating media.—Pr. xiii.324.

Physiological experiments on rabbits and therapeutic uses. Has risks of gastric irritation given by mouth, and cutaneous inflammation used hypodermically.—Pr. xiv.262.

Results of its use in Paris favourable as a hypnotic in nervous diseases.—L. ii.75,215.

In delirium tremens 7-grain doses often repeated is recommended, also in insomnia, chorea, and hysteria.—B.F.M.Ch.R. lviii.459.

In whooping-cough of children, 5-grain doses serviceable, and useful in asthma.—B.

Used in epilepsy, without good results.—L. i./80,553; B.M.J. i./80,548.

Lowers temperature and produces sleep, of use in delirium tremens, convulsions of teething, and hysterical wakefulness.—L. ii./76,698.

Combined with belladonna, useful in enuresis where potassium bromide unsuitable.—Pr. xliii.141; B.M.J. i./89,1463.

CAMPHORA SALICYLATA.

Salicylated Camphor.

Syn.—Salicylate of Camphor.

Dose.—1 to 5 grains, in a pill, with a sixth of its weight of suet or lard.

Prepared by heating together carefully 84 parts of camphor and 65 parts of salicylic acid, until a liquid homogeneous solution is formed, which becomes a crystalline mass on cooling. This again becomes unctuous when pounded, and liquefies when rubbed on the skin. It may be obtained in definite crystals from a benzol solution. It is slightly soluble in water and glycerine, about 1 in 20 of fats and oils, and is decomposed by hot alkaline solutions. By boiling with water it hydrates into an oily liquid. Applied as an ointment, it was found useful in lupus and rodent ulcers.—P.J. 1881,438, *ex* Annali di Chimica, lxxiii.193.

May prove serviceable in some forms of diarrhœa and to form antiseptic dressings.

Salicylated Camphor Wool.

Cotton wool impregnated with 8 per cent. of salicylated camphor, for antiseptic wound dressing.

CANNABIS INDICA.

Indian Hemp (*Off.*).

Extractum Cannabis Indicæ (*Off.*).

Dose.—¼ to 1 grain.

Is an alcoholic extract, of which 1 dissolved in 20 of rectified spirit forms

Tinctura Cannabis Indicæ (*Off.*).

Dose.—5 to 20 minims, suspended in some mucilaginous fluid.

Cannabin Tannas, Cannabin Tannate.

Dose.—2 to 10 grains, increased to 20, 4 grains being an average dose, taken an hour before bedtime, in a pill with glycerine of tragacanth or in solution of sal volatile and water.

A yellowish brown powder, prepared from *Cannabis Indica.* Tastes like tannin, has a not unpleasant smell, is insoluble in water and ether, slightly soluble in alcohol, and dissolves easily in water made slightly alkaline. It is stated to be free from the two volatile oils contained in *Cannabis Indica,* which are rapidly-acting irritating poisons. It does not produce intoxication, and is said to be a useful hypnotic, that, unlike opium and morphine, it rarely or never deranges the digestive and secretory organs, bowels, &c., and is specially valuable in nervous sleeplessness and in acute mania; 8-grain doses produce calm and quiet sleep.

In insomnia good effects were produced in 37 out of 63 cases, moderately good in 15. The patients awoke with no toxic after-effects.—Pr. xxix.377; M.P.C. ii./82,268; M.R. 1882,453.

Cannabis is useful for chordee and asthma, and as an aphrodisiac.

It is *the* remedy for menorrhagia.—B.M.J. i./83,1002.

For dull continuous headache, the extract is very useful, in doses of ⅓ to ½ grain.—B.M.J. i./87,97.

Valuable alike for anorexia, insomnia, and diarrhœa.—Pr. xl.95.

A report on the various preparations of cannabis.—B.M.J. ii./87,266.

Very useful in dyspepsia, diarrhœa, and summer cholera.—Pr. xxxix.8; L. ii./87,536.

Cannabis successful in migraine; ⅓ grain extract regularly taken; no unpleasant symptoms induced, and no craving follows.—Pr. xli.35.

Cannabina. Cannabine (pure alkaloid).

Dose, in pills.—1 to 5 grains daily in divided doses.

A translucent brown syrupy liquid, with the odour of Indian hemp, said to be purely hypnotic in its action.

Cannabinon. *Dose.*—¼ to 1 grain.

A purified resin, dark brown in colour, and of the consistence of treacle. Has also been used as a sedative in doses to relieve mania, hysteria, and sleeplessness, and is said to be more certain and powerful than the tannate of cannabin. For dispensing purposes, a dilution is made of 1 to 9 of sugar of milk.

On haschisch pure and cannabinon, use contra-indicated when heart disease exists.—L. i./87,542.

CANTHARIS.

Cantharides (*Off.*).

Syn.—Lytta; Spanish or Blistering Fly.

Dose.—$\frac{1}{16}$ to ½ a grain in a pill. Better given as tincture.

Of this, the dried insect—*Cantharis vesicatoria*—there are the following preparations official:—Acetum, 1 in 10; emplastrum, 1 in 3; tinctura, 1 in 80; unguentum, 1 in 7; charta epispastica; liquor epispasticus, 1 in 4 (p. 95); and emplastrum calefaciens, 1 in 25. The medicinal properties of cantharides are due to a neutral crystalline principle.

Cantharidin, in flat glistening rectangular prisms, which melt at 200° C., and volatilize in very irritating white fumes. It is soluble 1 in 84 of chloroform, about 1 in 100 of acetic ether. Soluble also in ether, benzene, glacial acetic acid, fats and oils, 1 in 3,300 of alcohol, insoluble in water. Solutions of Cantharidin, as well as other preparations of cantharides, are employed for stimulating the growth of the hair, in alopecia, and preventing its falling off, as in the following preparation:—

Linimentum Crinale (Squire).

Cantharidin	1 grain.
Acetic Ether	6 drachms.

Dissolve with a gentle heat, and add

Rectified Spirit	3 ounces.
Castor Oil...	1 ounce.
Oil of Lavender	15 minims.

"It produced successful vesication of every portion of the scalp to which it was applied."—L. ii./79,713. It is, therefore, too strong to be used freely. It is better to dilute it with an equal quantity of spirit, and the head should be washed after applying it a few times, to prevent the cantharidin accumulating.

References to Cantharidin.

Effects of poisoning by, on kidney and bladder.—L i./80,261; Pr. xxv.53.

Anodyne Vesicant. Camphor 20, Hydrate of Chloral 30, place in a bottle, liquefy by heat of water bath, and add Cantharides 10. Digest at 140° to 160° F. one hour, and strain with pressure.

Collodium Vesicans (*Off.*).

Blistering Liquid	20 ounces.
Pyroxylin	1 ounce.

Dissolve. It evaporates quickly, and its action is confined to the part on which it is painted. It is specially useful to apply to the temple or behind the ear, or other parts of the body where the following preparation would not locate itself. It is now made too viscid; half the quantity of pyroxylin is generally sufficient.

Liquor Epispasticus, Blistering Liquid* (*Off.*).

Cantharides in powder ...	5 ounces.
Acetic Ether	*q.s.*

Pack the cantharides in a percolator and moisten with 3 ounces of the ether. After 24 hours, add more acetic ether, and continue the percolation slowly, till one pint of percolate is obtained.

CAPSICI FRUCTUS.

Capsicum Fruit.

Dose in powder.—½ to one grain, in a pill.

From this, the well-known fruit of *Capsicum fastigiatum,* a crystalline principle, Capsaicin, possessing great power, has been obtained by Dr. Thresh.—P.J.

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[*] This preparation and the corresponding Collodion are proved too weak for many purposes. In these cases similar preparations of the strength of 8 ounces to the pint may be employed under the names of **Liquor Epispasticus Fortior** and **Collodium Epispasticum Fortius** respectively. Liquor Epispasticus, B.P. 1867, was of this strength, with acetic acid and ether as a menstruum.

1877,187. It caused in $\frac{1}{25}$ grain doses violent griping pain with purgative effect. It is not in commerce.

A **Snuff,** under the name of **Pulvis Boracis Compositus,** composed of capsicum, in fine powder 15, borax 20, carbonate of ammonium 10, recommended for hay fever.—B.M.J. i./84,1230.

Capsicin. Oleo-Resin of Capsicum (U.S.P.).

Prepared by exhausting capsicum fruit by percolation with ether, distilling off the ether, and pouring the liquid portion of the remainder on a strainer, in order to separate and reject the fatty matter.

Dose.—$\frac{1}{8}$ to $\frac{1}{4}$ grain in a pill.

Emplastrum Capsici.

Capsicum plasters in rubber combination are made in sheets 7 in. by 5 in., and yard rolls 7 in. wide.

Tinctura Capsici (*Off.*). *Dose.*—3 to 20 minims.

1 in 27 (nearly) of rectified spirit.

Given internally it increases the flow of saliva and gastric juice. It also increases the peristalsis of the intestine, relieves atonic dyspepsia, and is useful in dipsomania—it allays the craving for alcohol. The official tincture is too weak for external use as a rubefacient.

Tinctura Capsici Fortior, B.P.C.

Dose.—1 to 3 minims. Principally used externally. *Is practically identical with Concentrated Tincture of Capsicum* (Turnbull).

Capsicum in No. 40 powder	10 ounces.
Rectified Spirit	*q.s.*

Macerate 24 hours and percolate to 30 ounces.

This is too irritating generally. The writer has found the following approved of :—

Linimentum Capsici.

Capsicum Fruit in coarse powder	1¼ ounces.
Rectified Spirit	*q.s.*
Percolate to obtain	8¾ ounces.
Add Oleic Acid	9½ drachms.
Oil of Lavender	½ drachm.

Painted on the skin, or applied sprinkled on piline or lint covered with American oiled cloth, in an hour it produces a red glow; its action may be arrested by smearing the part with vaseline. Useful in chest affections, rheumatism, sciatica, &c. Does not blister or redden the skin, hence may be applied to exposed parts.

Unguentum Oleo-Resinæ Capsici, B.P.C.

Oleo-Resin of Capsicum, U.S.P.	1 ounce.
Yellow Wax	½ „
Benzoated Lard	4 ounces.

Melt the wax and lard, add the oleo-resin and stir until cold.

For use as the liniment. Is too strong for tender skins—will bear dilution 3 to 6 times.

CARBONIS TETRACHLORIDUM.

Tetrachloride of Carbon.

A heavy, volatile, and mobile chloroform-like liquid, has a pleasant pungent, quince-like odour if pure. Sp. Gr., 1·56. The vapour inhaled relieves hay-fever. Employed locally, sprinkled on piline or lint covered with American oiled cloth, it quickly relieves neuralgic pains. Has been used as, but is not a successful anæsthetic.

Anæsthesia rapidly produced by it, effects soon pass off; relieves pain and causes sleep.—L. i./67,574.

Chemical properties, physiological experiments, and uses for inhalation.—L. i./67,660.

Eighteen cases of its inhalation to relieve pain, and for operations and midwifery.—L. i./67,693,762.

Hay-fever, dysmenorrhœa and tic-douloureux relieved by it.—L. i./67,791.

CARMINUM.

Carmine.

A brilliant red colouring matter prepared from the cochineal insect—*Coccus Cacti*. It is insoluble in water, but entirely soluble in aqueous ammonia. It is not employed medicinally, but is much used for staining histological specimens.—See Appendix.

Glycerinum Carmini, Glycerine of Carmine.

Carmine 60 grains, Distilled Water 1 drachm, Solution of Ammonia, B.P. 80 minims; dissolve and add gradually Glycerine 6 drachms. Heat in a water bath till free from ammoniacal odour. When cold add 20 minims more of Solution of Ammonia to prevent gelatinization and Distilled Water *q.s.* to 1 ounce. Being nearly neutral it dilutes to a pure carmine colour without a purplish tint.

Liquor Carmini, Solution of Carmine.

Carmine 40 grains, distilled water *q.s.* to moisten, Strong Solution of Ammonia 40 minims; dissolve, and add Distilled Water to 1 ounce.

Used to colour various preparations for the toilet, &c.

Liquor Cocci, Liquid Cochineal.

Cochineal (not bruised), Carbonate of Potassium, of each 1 ounce; Distilled Water 8 ounces. Heat in water-bath for half an hour; gradually add Acid Tartrate of Potassium 1 ounce, stir well, continue the heat, and add Potash Alum (in powder) 1 ounce; heat five minutes more, strain through absorbent wool, and pour over contents of strainer sufficient Distilled Water to make strained product measure 8 ounces; when cold add Chloroform 15 minims.

Cascara Sagrada (*Off.*).—See p. 336.

CAULOPHYLLIN.

Dose.—1 to 4 grains in a pill, with glycerine of tragacanth.

A brown resinoid powder obtained from the root of *Caulophyllum thalictroides*—blue cohosh, pappoose, or squaw-root. It possesses diuretic, diaphoretic, and anthelmintic properties, and is used as an emmenagogue, parturient, and antispasmodic. It appears to exert a direct influence on the uterus.

Chinoidin, U.S.—See Quinoidina, p. 334.

CHLORAL HYDRAS.

Hydrate of Chloral (*Off.*).

Dose.—5 to 30 grains, in aqueous solution, or in chloroform water well diluted.

This hypnotic, produced by the action of chlorine on absolute alcohol and subsequent purification, is now well known. Its manufacture is a step short of the complete formation of chloroform. When first obtained as pure chloral it is liquid, by the addition of water to form hydrate it crystallizes. The pure detached crystals are preferred. They are soluble 3 in 1 of water—1 grain may be held in solution in one minim of aqueous solution. Freely soluble also in rectified spirit and ether, and in four volumes of chloroform, likewise soluble in oils and fats. The aqueous solution is decomposed by alkalies into chloroform, and formic acid, which combines with the alkali; should thus yield 72·2 per cent. (not less than 70 per cent. B.P.) of chloroform. Hydrate of Chloral heated first liquefies, then boils and becomes volatilized without residue. It should have, although pungent, no odour of chlorine; its aqueous solution is neutral, or nearly so. Its acrid taste is best disguised by free dilution, with addition of syrup of tolu and chloroform water; 5 grains may be made into a pill with ½ grain Canada balsam, or with a little syrup and tragacanth. As a hypnotic, it is often combined with opiates or morphine, or bromides, but it is incompatible with quinine. Its use is contra-indicated in heart affections, Bright's disease, and when the vital force is very weak. Poisonous doses are best treated after emetics, &c., with hypodermic injection of sulphate of strychnine and inhalations of nitrite of amyl. $\frac{1}{20}$ grain of picrotoxin is said to be enough antidote for 30 grains of chloral.—B.M.J. i./75, 506.

It is useful as an antidote to poisoning by strychnine, and as a remedy for tetanus. A solution of chloral possesses powerful antiseptic properties.

Tetanus, recovery from, under large doses of chloral; 6 ounces were given.—L. ii./84,272.

Another case, 100 to 160 grains given every 24 hours.—B.M.J. ii./88,994; L. ii./88,1013.

Successful case of traumatic tetanus; 22 grains every 3 hours for 20 days, then reduced.—L. i./89,1152.

As a vesicant, oil the skin, place some crystals on plaster, warm them until they melt, and apply.—Ed.M.J. March, 1887,846.

Severe chorea successfully treated with repeated doses of chloral.—L. ii./89,205.

For false pains preceding labour in neurotic women;

20 grains with 20 grains of antipyrin at bedtime.—B.M.J. ii./88,594.

Only one case of death from chloral during labour; 80 grains taken in 75 minutes.—B.M.J. ii./88,461, *ex* Amer. Jour. Obstet.

Preparations.

Chloral cum Camphora, B.P.C. (Pigmentum Chloral et Camphoræ, T.H.)

Flowers of Camphor,
Hydrate of Chloral, of each 1 ounce.

Rub together in a warm mortar until completely liquid and filter. It remains permanently liquid at ordinary temperatures, and forms a valuable application painted on painful parts in neuralgia and rheumatism. It mixes freely in alcohol, ether, oils, and fats, but not with water or glycerine: the camphor is precipitated on its addition to these. The compound (Chloral and Camphor) dissolves the alkaloids atropine, morphine, and veratrine to the extent of 1 in 30 or more, but their salts are less soluble in it. Liquefactions of a similar kind take place on mixing and gently heating respectively

Menthol 1, Chloral Hydrate 1.
Phenol 3, Chloral Hydrate 1.
Thymol 1, Chloral Hydrate 1.

Quinine salts and chloral hydrate also form liquid combinations. Antipyrin combination, see p. 121.

Suppository of Chloral.

Hydrate of Chloral...	...	5 grains.
Oil of Theobroma ...	...	10 grains.

Pound together and press into the mould. Heat must not be applied, else the mixture will not set firm. It is useful in infantile convulsions, where nothing can be administered by the mouth. It should be forcibly retained for a few minutes with the finger, if necessary.

Syrupus Chloral.

Hydrate of Chloral...	...	80 grains.
Distilled water ...	...	$1\frac{1}{2}$ drachms.
Dissolve and add		
Syrup *q.s.* to ...	...	1 ounce.

Dose.—$\frac{1}{2}$ to 2 drachms.

Bromidia. *Dose.*—$\frac{1}{2}$ to 1 drachm.

An American nostrum, each drachm of which is said to contain 15 grains respectively of chloral and bromide of potassium, with extract of cannabis indica and alcoholic extract of henbane, $\frac{1}{8}$ grain of each.

Chloralamide. *Syn.*—Chloral Formamide.

Dose.—20 to 50 grains, in weak spirituous or acidulated solution. It is incompatible with alkalies.

In colourless shining crystals with a faintly bitter taste; soluble 1 in 9 of water, 1 in 2 of spirit. Should not be heated over 120° F., or it is decomposed.

Recommended as a hypnotic, specially suitable in neurasthenia, spinal affections, and heart disease. Has no analgesic action, and has proved unsatisfactory in phthisis. An increase of dose is not required by continued use. Undesirable effects are less frequent and less marked than from chloral.

Trial of 28 cases, 26 successful. Useful in insomnia from nervous affections; satisfactory as an enema.—L. ii./89,397; P.J. 1889,161; Th. Gaz. Sept.1889,611; Oct. 685. Useful in 23 cases of mania.—L. i./90,339.

Fourteen cases of simple insomnia, and that arising from phthisis, heart disease, and enteric fever. Results satisfactory.—L. ii./89,849; P.J. 1889,341.

Twenty successful cases; no bad results.—B.M.J. ii./89,1326. Especially suitable in pure nervous insomnia; requires caution in cardiac affections.—L. ii./89,1192, *ex* Therap. Monat.

Uralium and **Somnal,** see p. 389.

CHLOROFORMUM.

Chloroform (*Off.*).

Syn.—Terchloride of Formyl.

Dose.—1 to 10 minims, suspended in equal parts of mucilage and water, or in a perle. Small doses may be given as chloroform water or spirit of chloroform.

This well-known anæsthetic is soluble in all proportions in absolute alcohol, pure ether, fixed and volatile oils, and 1 in 200 of water. It does not mix with glycerine. It is a solvent for mastic and most resins, many alkaloids, iodine, bromine, and of phosphorus and sulphur sparingly. It also dissolves gutta-percha and india-rubber. It acts on india-rubber even when vulcanized. Chloroform, according to the Pharmacopœia, has Sp. Gr. 1·497, and contains 1 per cent. by weight of absolute alcohol, which prevents its decomposition (only one-quarter per cent. is required to produce above specific gravity). Absolute Chloroform has Sp. Gr. 1·5; it quickly decomposes especially on exposure to sunlight, and liberates chlorine; the addition of one-thousandth part by weight of absolute alcohol is sufficient to check this change. Owing to the alcohol it contains, it is slightly coloured by agitation with sulphuric acid, but leaves no residue or unpleasant odour after evaporation,—a good and simple test. Permanganate of potassium solution, rendered alkaline with caustic potash, has been suggested, both as a test and as a purifier of Chloroform. Commercial Chloroform, when shaken with a little of this solution, quickly turns green; but this has been shown to be due principally to the alcohol added as a preservative. Absolute Chloroform does not change the violet colour of the test.—P.J. 1882,711,740,760,769, 784; L. i./82,355; B.M.J. i./82,62,331. A pure Chloroform is now prepared in this country by the action of chlorinated lime on acetone.—P.J. 1889,84.

Although the most generally-used of anæsthetics, it has of late fallen into disfavour, ether and dichloride of ethidene having somewhat supplanted it. It is agreeable to the patient, rapid in its action, produces complete insensibility, and there is an absence of excitement and movements during the operation, such as is produced by ether; but Chloroform has a decided effect in reducing the blood pressure, while ether has no appreciable effect of this kind, and Chloroform has sometimes an unexpected and apparently capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, while the pulsations are greatly retarded or even stopped.—B.M.J. ii./80,970.

Chloroform and Cocaine Anæsthesia (combined). See p. 140.

Antidotes and References.

In syncope from Chloroform inhalation, 3 drops of nitrite of amyl (a capsule is convenient) restores respiration and circulation, with flushed face and return of sensibility when the pulse or breathing becomes defective, with lips blue, &c.—L. i./75,644; B.M.J. ii./88,179 522.

Atropine injected hypodermically is suggested as an antidote to the cardio-inhibitory effects of Chloroform.—B.J. ii./80,620,715,761.

Professor Von Nussbaum and Professor Claude Bernard have shown that mixed narcotism and anæsthesia reduce the quantity of Chloroform necessary to produce anæsthesia; if $\frac{1}{8}$ to $\frac{1}{4}$ grain of morphine be injected hypodermically before the Chloroform is administered, less Chloroform is needed, the insensibility is more profound, and the danger attending its use is lessened. Of importance in hot climates, where the low boiling-point of ether prevents its being used.—Pr. xxv.401; L. ii./82,1031.

Chloroform, used by the tonometer, paralyses the ventricles of the frog's heart, by its action on the muscular substance; solution of ammonia is antagonistic to it. R.; Pr. xxvi.,436.

Sudden application of large cloth dipped in boiling water to cardiac region in threatened death through syncope from chloroform anæsthesia, was successful in restoring.—L. i./81,1015.

Vegetable and animal infusions and decoctions can be preserved indefinitely by the addition of 1 minim of Chloroform to the ounce of liquid, if vessels containing it be well closed. Better to mix the Chloroform with double its volume of rectified spirit before adding it to the fluid to be preserved.—L. ii./81,694; Pharm. Jour. 1874,441.

Resuscitation from Chloroform syncope by inversion of the body, certainly saved patient.—B.M.J. i./81,559.

Statistics of and correspondence on the recent deaths from.—B.M.J. i./82,247,287; L. ii./86,901,954.

Is a strong poison to the ventricle of the frog's heart. Solution of ammonia antagonises its paralyzing action.—Pr. xxvi.437.

Recovery from drinking an ounce, treatment by digitalin and strychnine.—Ed. M.J., Dec. 1887,523.

In 1882 statistics with particulars of 23 deaths from Chloroform, 4 from ether and 1 from Chloroform and ether.—B.M.J. i./83,353; statistics of 1883, B.M.J. i./84,351; of 1884, B.M.J. i./85,887.

Death of an habitual inhaler and drinker of chloroform.—B.M.J. i./88,121.

Recent deaths from.—B.M.J. ii./88,135,625,637; ii./89,1408; L. ii/89,1243; L. i./90,416.

Unpleasant effects from decomposition of vapour by flame of artificial light in confined space.—Pr. xlii.418.

Internal use of chloroform successful in gastric ulcer.

pneumonia, and typhoid; also of gargles in pharyngitis and diphtheria.—L. i./89,497.

Report of the Hyderabad Commission shows that deaths from Chloroform are more often due to its checking the power of respiration than to arrest of heart's action; in threatened collapse, artificial respiration recommended. Chloroform in no way endangers a fatty heart, but on contrary, by lowering blood-pressure, lessens its work. Does not increase tendency to shock or syncope, but such, if they occur, lessen danger of Chloroform inhalation. Subcutaneous small dose of morphine useful for prolonged operations; use of atropine condemned. If it does not cause excitement, alcohol may be given preceding administration to give patient confidence and steady circulation. With precautions mentioned, Chloroform may be given for operations with ease, and without risk.—L. i./90,149,421,486; Discussion on.—L. i./90, 349; B.M.J. i./90,347,359.

Letters on above.—L. i./90,213,372,515.

Anæsthetic Preparations of Chloroform.

Capsules of Chloroform.

Encased in cotton wool and silk; contain 10 minims in each. Are convenient for use in asthma, &c.; may be fractured and used by the patient while in bed.

Chloroform combined with alcohol or Eau-de-Cologne, as well as Chloroform and ether mixed in various proportions, have been used as anæsthetics. Generally one volume of Chloroform is added to two volumes of ether for this purpose. A mixture also which received the approval of the committee of the Medico-Chirurgical Society is known and prepared as follows:—

A.C.E.

Alcohol, Sp. Gr. 0·838 ...	1 volume.
Chloroform, Sp. Gr. 1·497...	2 ,,
Ether, Sp. Gr. 0·735 ...	3 ,,

The writer has been in the habit of preparing it from the more definite ingredients—viz.:—

Absolute Alcohol, Sp. Gr. 0·795	1 volume.
Chloroform, Sp. Gr. 1·497...	2 ,,
Pure Ether, Sp. Gr. 0·720...	3 ,,

The mixture has Sp. Gr. 1·01.

The three ingredients are intended to be mixed in such proportions that, when the quantities of each taken separately are exposed to the air in watch glasses, they shall completely evaporate in the same time. It is held they will, from this mixture, evaporate uniformly.

A.C.E. is as effective as pure Chloroform, and a safer agent when deep and prolonged anæsthesia is to be produced, while at the same time it is sufficiently rapid in its operation to be convenient for general use, although it takes a longer time than Chloroform (10 to 15 minutes) to procure anæsthesia.—Medico-Chirurgical Transactions, xlvii.341,343.

Gave typical Chloroform tracings. Report of Hyderabad Commission.—L. i./90,158.

This mixture is of great service in midwifery, where complete anæsthesia is not required.

Safer than Chloroform and quicker than ether.—L. i./79,788.

Recommended for use as safe.—L. i/82,328.

In Vienna, the writer was informed, a modification of this consisting of Alcohol 3, Ether 3, and Chloroform 10, all by weight, is always used at the General Hospital.

Is the best anæsthetic for general use.—B.M.J., ii./87, 1078,1359.

Death under administration.—B.M.J. ii./88,1028.

Chloramyl. Chloroform 1 pound; Nitrite of Amyl 2 drachms.

Is not much in use. It is said to possess all the advantages of Chloroform without its dangers. Both the heart's action and respiration are kept up thoroughly throughout the anæsthesia, and this is quickly produced.—B.M.J. i./79,640.

General Preparations of Chloroform.

Internally Chloroform is an antispasmodic and sedative. On account of its agreeable taste it is often added to nauseous medicines, in the form of Spirit of Chloroform, to disguise their taste. Chloroform also acts as an antiseptic, and checks the development of fungoid growths in vegetable infusions and fruits.—P.J. 1887,315. Externally it produces a local anæsthesia, and is added to liniments to aid their absorption and to allay pain in neuralgia. It is a curious, and little-known fact that considerable doses of pure chloroform may be taken into the stomach, without causing death by poison; for recovery after drinking an ounce, see Ed. M.J. Dec. 1887, 523; a tablespoonful not dangerous.—B.M.J. i./86,786; Th. Gaz. Jan. 1886.

Aqua Chloroformi (*Off.*).—1 in 200 of water.
Dose.—½ to 2 ounces.

Chloroformum Aconiti.—See p. 37.

Chloroformum Belladonnæ.—See p. 73.

Chloroformum Camphoratum, B.P.C.

Camphor, 2 ounces, Chloroform, 1 ounce.

Useful for toothache, applied on cotton wool.

Linimentum Chloroformi (*Off.*).

Chloroform, 2 ounces. Liniment of Camphor, 2 ounces.

Vaseline might with advantage replace the oil of the camphor liniment for this preparation.

Liquor Chloromorphiæ, Chloromorphia Solution.

		Contains in a 10 minim dose :—
Chloroform	2 ounces.	2 minims.
Rectified Spirit	2 ounces.	2 minims.
Treacle	4 ounces.	4 grains.
Liquid Extract of Liquorice	1½ ounces.	1½ minims.
Hydrochlorate of Morphine	40 grains.	$\frac{1}{12}$ grain.
Sulphate of Atropine ...	1 grain.	$\frac{1}{480}$ grain.
Oil of Peppermint ...	8 minims.	$\frac{1}{60}$ minim.
Diluted Hydrocyanic Acid...	160 minims.	$\frac{1}{3}$ minim.
Tragacanth in powder ...	20 grains.	$\frac{1}{24}$ grain.
Distilled Water *q.s.* to ...	10 ounces.	

Rub the morphine, atropine, and tragacanth with the liquid extract of liquorice and transfer to a bottle. To the spirit add the Chloroform and oil of peppermint. Mix this gradually with the morphine solution, then add the remaining ingredients and shake well.

Dose.—5 to 20 minims. Is a useful sedative, more nearly resembling the secret remedy, Chlorodyne, than the official Tinctura Chloroformi et Morphinæ.—**Caution.** -It contains four times as much Morphine as the latter.

Perles of Chloroform contain about 3 minims in each. *Dose.*—1 or 2.

Spiritus Chloroformi (*Off.*).—1 in 20 S.V.R.
Dose.—5 to 60 minims.

Tinctura Chloroformi Composita (*Off.*).

Chloroform	2 ounces.
Rectified Spirit	8 ounces.
Compound Tincture of Cardamoms...	10 ounces.

Dose.—5 to 60 minims.

Tinctura Chloroformi et Morphinæ (*Off.*).

		Contains in a 10 minim dose:—
Chloroform	1 ounce	$1\frac{1}{4}$ minims.
Ether	2 drachms.	$\frac{1}{3}$ minim.
Rectified Spirit	1 ounce.	$1\frac{1}{4}$ minims.
Hydrochlorate of Morphine	8 grains.	$\frac{1}{48}$ grain.
Diluted Hydrocyanic Acid	$\frac{1}{2}$ ounce.	$\frac{5}{8}$ minim.
Oil of Peppermint	4 minims.	$\frac{1}{96}$ minim.
Liquid Extract of Liquorice	1 ounce.	$1\frac{1}{4}$ minims.
Treacle	1 ounce.	$1\frac{1}{4}$ minims.
Syrup *q.s.* to	8 ounces.	

Diffuse the morphine and oil of peppermint in the spirit, and add the chloroform and ether. Mix the extract and treacle with three ounces of syrup, add this to the above, mix, and further add the hydrocyanic acid and syrup *q.s.* to eight ounces. On standing a few days, a limpid liquid separates and floats on the remainder. In chlorodyne the colourless liquid sinks on standing, owing, as the writer thinks, to the absence of ether—this he has been unable to detect in it.

CHRYSAROBINUM.

Chrysarobin (*Off.*).

Syn.—ARAROBA POWDER; GOA POWDER; PO' DE BAHIA.

Dose.—$\frac{1}{6}$ to $\frac{1}{2}$ grain.

A concretion (erroneously stated in the B.P. to be the medullary matter) obtained from the stem and branches of a leguminous tree, *Andira Araroba*, dried, powdered, and purified.

The crude substance is imported from Brazil, mixed with chips of wood, as a rough powder or in small pieces. About 80 per cent. of its weight consists of chrysarobin, or chrysophanic acid so-called, to which it owes its medicinal properties. It is at first of a light yellow colour, but turns pale brown and darkens by exposure and oxidation into *true* chrysophanic acid. It has been known and used in India under the name of Goa powder as a remedy for Indian ringworm and other skin diseases. The Portuguese settlers at Goa imported it from Brazil. In 1874 some Araroba was offered in the London drug market from Brazil, of which the writer got a sample; nothing was known of it except that it was a remedy for skin diseases. A specimen was afterwards exhibited at the Pharmaceutical Meeting in March, 1875. The writer having previously supposed the Indian drug (from information given to him by Dr. Giraud, late of Bombay) was the same as Araroba, asked about their identity.—P.J. 1875,716. This Dr. Attfield ultimately established, and also that they consisted principally of chrysophanic acid.—P.J. 1875,721. Papers on its history and uses appeared almost simultaneously by Sir Jos. Fayrer and Dr. Da Silva Lima.—M.T.G. ii./74,470; M.T.G.i./75,249. The Indian mode of using the drug was to cut a lime fruit, dip it in the powder and dab it on the affected skin. The Brazilians mixed it with vinegar, and applied it, or used an ointment, 20 to 40 grains with 10 drops of acetic acid to an ounce of lard.—M.T.G. i./75,249; P.J. 1875,723.

For the further chemical history and botanical source, *vide* P.J. 1864,345; 1875,721,801; 1877,709; 1879,775, 986; 1880,42, 814.

Chrysarobinum Purum, Pure Chrysarobin.

Syn.—RHEIN, CHRYSOPHANIC ACID (in error so called). "Commercial Chrysarobin, as purified by solvents."—B.P. *reprint*, 1887.

Dose.—$\frac{1}{6}$ to $\frac{1}{2}$ grain or more in skin diseases; 8 to 20 grains is an emetic purge.—B.M.J. i./77,608.

For use in medicine this has almost entirely displaced the crude araroba. It is a tasteless and odourless dull orange yellow powder, but can be obtained by sublimation in bright shining yellow needles. It is contained in Rhubarb root, Dock root, and the Yellow Wall Lichen, &c., but commercially it is prepared from Araroba or Goa powder by exhausting this with hot benzene or petroleum spirit, filtering and allowing the Chrysarobin to crystallize out. It is not soluble in weak solution of potash, but by the action of a stronger solution of this alkali in contact with the air it dissolves and becomes converted into chrysophanic acid in combination with potassium, from which true chrysophanic acid may be separated by the action of a mineral acid.—P.J. 1879,896. Clinical experiments have shown that the mother-liquor from which Chrysarobin has crystallized still contains a principle more active than pure Chrysarobin.

Chrysarobin is freely soluble in hot benzene, hot chloroform, hot oil of turpentine and several volatile oils; in hot glacial acetic acid and hot glycerine about 1 in 60; olive oil, melted lard and vaseline dissolve it largely if heated, but on cooling any of these solutions much of it crystallizes out. It is insoluble in water, rectified spirit, and ether. It may be made into pills with glycerine of tragacanth.

Used externally, chrysarobin is a powerful stimulant and parasiticide in many skin affections. It has also been administered internally for psoriasis, but even in half-grain doses it purges the patients so much, that as a rule its use cannot be persevered in to produce a cure.

Unguentum Chrysarobini (*Off.*).

Chrysarobin	1
Benzoated Lard	24

Mix, heat to dissolve as much as possible, and stir till cold. Preferably, pure Chrysarobin is used. Unguentum Chrysarobini, U.S., is 1 in 10 of benzoated lard, about double the strength of the above.

Chrysarobin ointment has been used as a successful remedy in psoriasis, lupus, ringworm of the scalp, pityriasis, tinea circinata, &c. For some forms of eczema and other skin affections a milder ointment should be used—5 to 10 grains to an ounce. It is important that the drug should be dissolved in the fat. It stains the skin and hair, and a strong ointment after three days' continued use sometimes produces feverishness and irritation, accompanied by discoloration of the skin beyond the parts to which it has been applied. The stains can be removed from the skin, linen, &c., with benzene, or a weak solution of potash or chlorinated lime.

In Vienna, for psoriasis, M. Auspitz uses each day, or every two or three days, according to extent of surface affected, with soap baths intervening, a pigment composed of chloroform (by weight) 8, chrysarobin (pure) 1, dissolve and add gutta percha 1; dissolve again.—Pr. xxxiii.52; Pr. xxxiv.135; B.M.J. i./84,1006.—M. Besnier first paints on the part a 10 to 15 per cent. solution of chrysarobin (pure) in chloroform, and covers it with the gutta percha varnish known as

Traumaticin, composed of

Gutta Percha (purified) 1, Chloroform (by weight) 9.

As this is about the same strength as LIQUOR GUTTA PERCHA, B.P., 1 to 8 (fluid), the writer prepares M. Auspitz's application thus:—

Pigmentum Chrysarobini.

Chrysarobin (pure)	1 ounce.
Liquor Gutta Percha, B.P....	9 fluid ounces.

Mix. The following **Paint** is recommended for psoriasis; chrysarobin 1, pyrogallol 1, collodion 120, ether and alcohol, equal parts, *q.s.* to dissolve. Apply after bathing every third day.

Plaster Mulls are spread containing 45 and 18 per cent. of **Chrysarobin** respectively.

Treatment of psoriasis by Chrysarobin and its preparations.—B.M.J. ii./76,819; i./77,510, 546; i./78,663, 866; L. ii./81,74; i./82,817; ii./82,702, 792, 935; ii./85,577; Pr. xx. 415; xxi. 444.

Occasions sometimes erythematous irritation of the skin with violet or purplish discolorations, and at times minute papules.—B.M.J. i./79,223.

Ointment useful in acne rosacea.—M.T.G. i./77,665.

Chrysarobin is a powerful local stimulant; not, however, tending towards vesication or ulceration; curative properties best shown in psoriasis; is an undoubted parasiticide, especially in ringworm of the body and tinea versicolor.—Pr. xxii.376.

Nine cases of tinea circinata cured in a week by Goa powder ointment, not so successful in tinea tonsurans.—L. i./77,124; B.M.J. i./77,199.

In ringworm, 7 grains to 1 ounce of chloroform applied thrice daily sinks in deeply.—B.M.J. ii./84, 858.

Chrysarobin successful as a local application for hæmorrhoids.—L. ii./89,811.

CIMICIFUGÆ RHIZOMA.

Cimicifuga (*Off.*). *Syn.*—ACTÆA.

The rhizome and rootlets of *Cimicifuga racemosa* (*Actæa racemosa*, Linn.), black snakeroot or black cohosh. Indigenous to the United States and Canada.

Cimicifugin.

The powdered resinoid substance of a yellowish brown colour obtained from black snakeroot.

Dose.—1 to 6 grains in pill with glycerine of tragacanth, as a nervine tonic and antispasmodic, given for rheumatism, chorea, amenorrhœa, and to excite contraction of the uterus.

Extractum Cimicifugæ Liquidum (*Off.*).

1 = 1 of Cimicifuga exhausted with rectified spirit.

Dose.—3 to 30 minims.

Tinctura Cimicifugæ (*Off.*).

Syn.—TINCTURA ACTÆÆ.

1 in 8 of proof spirit—about one-third weaker than our former tincture.

Dose.—15 to 60 minims, or 5 minims every hour.

Very useful in chronic rheumatism where one part of a tendon, muscle, or articulation is exquisitely paniful, or where the disease is traceable to previous uterine affection; also in lumbago, sciatica, pleurodynia, and headache from fatigue.—R.; Th. Gaz. Nov. 1887,732.

In chronic rheumatism and obscure nerve-pains, also in lumbago very valuable in dose of 30 minims twice or three times a day.—L. ii./62,238.

Cimicifuga successful in severe dysmenorrhœa of long standing, dyspepsia with neuralgic pains, and hysterical neuralgia.—L. i./89,477.

CINCHONÆ CORTEX.

Cinchona Bark (*Off.*).

The following dried barks are official for the production of the salts of the Cinchona alkaloids:—Yellow Cinchona bark, obtained from *Cinchona Calisaya;* pale Cinchona bark (crown or Loxa bark), from *Cinchona officinalis;* red Cinchona bark, from *Cinchona succirubra;* the bark of *Cinchona lancifolia*, Mutis, and other species of Cinchona; that of certain species of Remijia may also be used. The only kind official for making galenical preparations is the cultivated Red Cinchona bark. See p. 113.

The sources of the principal "barks" of commerce may be tabulated as follows:—

I. C. officinalis, *var.* α, Condaminea } yielding
   ,, ,, β, Bonplandiana } crown
   ,, ,, γ, crispa } bark.

II. C. succirubra (Pavon), yielding red bark.

III. { C. nitida
     C. micrantha
     C. Peruviana } ,, grey bark.

IV.	C. Calisaya	yielding	yellow bark.
V.	C. lancifolia C. cordifolia	,,	Columbian bark.
VI.	C. Pitayensis	,,	Pitayo bark.
VII.	Remijia Purdieana ,, pedunculata	,,	Cuprea bark.

The Quinine barks, as they are called, now imported from South America, are chiefly the Calisaya in quills, and those known as Cuprea barks, the produce of species of Remijia. But a much larger quantity of cultivated bark arrives, chiefly from Ceylon, the produce of *C. succirubra*, *C. officinalis*, and hybrids; the remainder comes principally from India; some of the rich Java bark, produced by *C. Calisaya, var. Ledgeriana*, comes to London, but most of it goes either to Amsterdam or Hamburg.

A quantity of "flat" Calisaya bark (so-called) has been imported from South America, which according to its alkaloidal yield was intrinsically valueless. It is a spurious Calisaya; the pieces resemble the old flat variety in some respects, but do not bear the characteristic digital depressions or furrows on their outer surface.

The alkaloid Cinchonidine, although often found associated with quinine in Cinchona, is generally absent from Cuprea barks, and in some a new principle, nearly allied to quinine, has been found, named Homoquinine, or Ultraquinine; of five parts of this, two have been resolved into quinine and three into Cupreine, another new alkaloid; its salt, **Sulphate of Cupreine**, is sold in light feathery crystals. An alkaloid named **Cinchonamine** has also been found in some samples. **Hydroquinine**, another cinchona alkaloid, discovered by Hesse, is associated with and nearly allied to quinine; it possesses similar chemical properties to the latter, but has two additional atoms of hydrogen in its molecule.

The cultivation of the Cinchona is carried on in India, in the Nilgiri Hills in the south, and near Darjeeling in the north-east, also in Ceylon (whence our largest supply), Java, and the West Indies. Prices have been very low, but are advancing (1890).

The species *C. succirubra* has proved to be the hardiest and most easily propagated, and, although on analysis the yield of cinchonidine and quinidine generally preponderates over that of quinine, yet the total yield—often 5 to 10 per cent.—of alkaloids from the bark of this Cinchona is very large; latterly the proportion of quinine in it has increased.

As it is thus a valuable bark for pharmaceutical purposes, it has, therefore, been made official, in place of the yellow and pale barks formerly directed to be employed in making the galenical preparations of the British Pharmacopœia, as

Cinchonæ Rubræ Cortex, Red Cinchona Bark (*Off.*).

Dose.—5 to 60 grains.

The dried bark of the stem and branches of cultivated plants of *Cinchona succirubra.*

The pharmacopœial characters do not apply to the renewed bark or to that which comes from Ceylon and is spoke-shaved off. Tested by official process, it should yield between five and six per cent. of total alkaloids, of which not less than one-half should consist of quinine and cinchonidine.

Preparations of Red Bark.

Decoctum Cinchonæ (*Off.*).—1 produces 16.

Dose.—1 to 2 ounces.

Elixir Cinchonæ.—See p. 165.

Extractum Cinchonæ Liquidum (*Off.*).

Dose.—5 to 10 minims.

Red Cinchona Bark in No. 60 powder, 20 ounces, is percolated with a mixture of distilled water 5 pints, hydrochloric acid 5 drachms, and glycerine 2½ ounces; the percolation is continued with distilled water until the bark is exhausted. The percolate is concentrated by evaporation, and adjusted in strength so that, after the addition of 12·5 per cent. of rectified spirit, it shall contain 5 grains of total alkaloids in 100 fluid grains. It thus makes an acid preparation of bark; 1 ounce equals about 1 ounce of bark. In the 1868 B.P. **Extractum Cinchonæ Flavæ Liquidum**, yellow bark, was percolated with cold distilled water *only*, the percolate concentrated to Sp. Gr. 1·2, and one-third its volume of rectified spirit added; it then had Sp. Gr. 1·1; a plain aqueous menstruum being used, it failed to exhaust the bark—even approximately.

Liquid extract of red bark has been much lauded in America for giving drunkards a distaste for alcohol.—B.M.J. i./80,271,681.

Infusum Cinchonæ Acidum (*Off.*).

Dose.—1 to 2 ounces.

Red bark ½ ounce in boiling distilled water 10 ounces, with aromatic sulphuric acid 1 drachm; infuse 1 hour and strain.

Mistura Ferri Aromatica (Heberden's Ink) (*Off.*) contains cinchona. *Dose.*—1 to 2 ounces.

Tinctura Cinchonæ (*Off.*).

Red bark 1 in 5 of proof spirit.

Dose.—½ to 2 drachms.

Tinctura Cinchonæ Composita (*Off.*).

Syn.—Huxham's Tincture of Bark.

Has now red *vice* pale bark 1 in 10.

Dose.—½ to 2 drachms.

Vin de Quinquina au Malaga (Codex).

May be made with red bark 3 parts in 100 of Malaga wine.

Dose.—1 to 4 drachms, is readily taken by children.

Cinchonina and Sulphate.—See p. 115.

Cinchonidinæ Sulphas.—See below.

Quinetum and Sulphate.—See p. 326.

Quinidinæ Sulphas.—See p. 326.

Quinina and Salts.—See p. 327.

As to the relative value of the Cinchona alkaloids, two Commissions, one in Bombay, the other in Madras, have reported that Quinine keeps its long-maintained and acknowledged supremacy. Next in value is Quinidine; then follow Cinchonidine and Cinchonine; of the last two, the former is preferable, but dearer, the latter being nauseous and liable to cause derangement to the stomach. The proper relative doses are of Quinine 3 grains, Quinidine 5 grains, and Cinchonidine and Cinchonine 7 grains each.—P.J. 1870,325; P.J. 1872,725; P.J. 1873,396.

CINCHONIDINÆ SULPHAS.

Sulphate of Cinchonidine.

Syn.—Formerly termed Quinidine Sulphate, or Chinidin Sulphate, by German chemists.

Dose.—1 to 10 grains.

In silky white needles, generally smaller than sulphate of quinine, obtained from some cinchona barks. Although isomeric with cinchonine, its solution is lævogyrate to polarized light, like that of quinine, but it does not, like the latter and true quinidine, produce the emerald green colour with chlorine water and ammonia. The sulphate is soluble 1 in 50 of alcohol, 1 in 100 of water, rendered more soluble in water by addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts with 1 of glycerine of tragacanth in pills. Taste, bitter.

Much less costly than quinine, and can be used with effect in doses of 1 to 5 grains as an antipyretic.—Pr. xvii.53.

In intermittent fever as much as 62 grains per diem produced marked slowing of the pulse, without any convulsive action or symptom of intoxication, which it has been said to cause.—Pr. xxiv.375.

In intermittent fever 5 or 6 grains 4 or 5 times a day is most effective.—L. ii./81,1065.

Salicylate of Cinchonidine is useful as a tonic and antiperiodic in neuralgia, rheumatism, sciatica, &c., 5 grains every 2 hours in pills or wafer paper.—B.M.J. i./81,428.

CINCHONINA.

Cinchonine.

Dose.—1 to 10 grains.

An amorphous white powder, as met with in commerce, obtained from Cinchona barks, isomeric with cinchonidine, but solutions of its salts are dextrogyrate. Being insoluble in cold water, and requiring 2,500 of boiling water to dissolve it, it is almost tasteless, and is recommended in the following form as a tasteless febrifuge for children:—

Pulvis Cinchoninæ Compositus.

Cinchonine	12 parts.
Bicarbonate of Sodium ...	1 part.
Sugar of Milk	60 parts.

Rub to a fine powder.

Dose.—3 to 12 grains, according to age.

Cinchoninæ Hydrochloras.

Dose.—1½ to 10 grains, or more.

In white acicular crystals, very like sulphate of quinine, very soluble in water and alcohol.

Cinchoninæ Sulphas (*Off.*).

Dose.—1½ to 10 grains, or more.

In hard, colourless, short rhombic prisms, with a vitreous lustre. Soluble 1 in 54 of cold water, 1 in 12 absolute alcohol. Cinchonine salts are much the cheapest of the alkaloidal salts of Cinchona. Their nauseous, bitter taste is objectionable. They are given in doses one-third larger than quinine and for the same purposes; as prophylactics some have thought them superior to quinine. The hydrochlorate is the salt most convenient for use. May be dispensed in aqueous solution, or in pills, 5 parts with one of glycerine of tragacanth.

COAL TAR DERIVATIVES.

Solutions of Coal Tar.

An alcoholic preparation known as *Liquor Carbonis Detergens* owes its properties in part to Carbolic Acid.

As a lotion, from 1 drachm to 1 ounce to a pint of distilled water forms a yellowish milky emulsion; or, as an ointment, 1 part to from 7 to 15 of basis. Useful in prurigo and chronic scaly skin diseases.

Liquor Picis Carbonis, B.P.C.

Coal Tar prepared by heating in a shallow vessel, at 120° F. for one hour, stirring frequently, 4 oz.; Tincture of Quillaia (1 in 10 S.V.R.) 1 pint. Digest at 120° F. for two days, cool, and decant or filter.

Liquor Picis Carbonis et Ligni.

Dissolve Wood Tar 1 in 20 of above liquor.

A corresponding

Liquor Picis Ligni may be prepared by dissolving Wood Tar 1 in 20 of above Tincture of Quillaia.

The tincture of quillaia enables these solutions to form emulsions with water. One part to 7—20 is useful for various skin affections as a lotion.

Acetophenone.—*Syn.* HYPNONE; PHENYL-METHYL ACETONE. *Dose.*—1½ to 5 minims, suspended in almond emulsion, or with mucilage or syrup and peppermint water, or in **Capsules of Hypnone** with oil, which contain $\frac{3}{4}$ minim of Hypnone in each. Hypnone is a colourless liquid at ordinary temperatures, but crystallises below 50° F. in white needles. Has a strong odour of almond and orange blended. Is insoluble in water, but soluble in alcohol, ether, and oils. As a hypnotic, is said to be useful in nervous affections, and simple insomnia without pain; its administration requires care, as its action is somewhat uncertain.—L. i./86,466; B.M.J. i./86,84,131,947; ii./86,19; P.J. 1885,445,582; 1886,641; L. ii./89,398.

Has been used with some success internally to promote chloroform anæsthesia.—B.

Is of no value in insomnia.—L. i./86,369; L. i./87,391.

Acidum Carbolicum.—See p. 7.

Acidum Phenylaceticum, Phenylacetic Acid *Syn.*—ALPHATOLUIC ACID.

Dose.—1 to 3 grains, in alcoholic or oily solution.

Is in white micaceous crystalline scales, with a pungent aromatic taste and a persistent diffusible odour, resembling that of the perspiration of horses.

Soluble 1 in 1 of spirit, 1 in 20 of oils.

In phthisis, in doses of 10 to 20 minims of a 1 in 6 alcoholic solution, freely diluted, three times a day, produced gain in weight, strength, and colour, partly due to diminution of cough and expectoration.

This acid and phenylpropionic acid, mentioned below, from their disinfecting action on the virus of tubercle, have been given internally at Brompton Hospital in a number of cases of phthisis. Their pungency might be decreased by being administered in cod liver oil.—Pr. xlii.100; P.J. 1885,429; 1889,701.

Acidum Phenylpropionicum, Phenylpropionic Acid. *Syn.*—HYDROCINNAMIC ACID, HOMOTOLUIC ACID.

Dose.—1 to 3 grains, in alcoholic or oily solution.

In white acicular crystals, with a strong diffusible balsamic odour and aromatic taste.

Soluble 1 in 1 of spirit, 1 in 6 of oils.

In phthisis, given in doses of 10 to 20 minims of alcoholic solution, 1 in 6, freely diluted, three times a day, produced similar results to above, but did not diminish cough or expectoration. Apparently indicated in excavation cases.—Pr. xlii,100; P.J. 1885,429; 1889,701.

Acidum Picricum—See p. 23.

Acidum Salicylicum.—See p. 25.

Aniline.—*Syn.* PHENYLAMINE, MONO-PHENYLAMINE.

A colourless, mobile, oily liquid, with a faint vinous odour and aromatic burning taste, soluble in alcohol, ether, and oils, slightly so in water. It darkens in colour by keeping. **Aniline colours**, see p. 395. It is used in the so-called **Aniline Treatment of Phthisis**, which consists of inhalation of 1 part aniline to 7 of eucalyptus oil (oil of anise, peppermint, or gaultheria may be used as the diluent) from a specially-designed inhaler. 10-grain doses of acetanilide are given 4 or 5 times a day; this breaks up in the system, aniline being one of the products. At the same time an ointment of iodine or iodoform with eucalyptus oil is rubbed into the chest, and counter-irritants applied. Aniline is supposed to destroy the tubercle bacilli in the blood.—B.M.J. i./87,579,789,842; L. i./88,569. No good results in any case, but disease became worse, besides showing toxic action of aniline on the heart.—L. ii./88,388.

Fuchsine. — Rosaniline Mono-Hydrochlorate. *Syn.*—MAGENTA; ROSEINE.

Dose.—½ to 4 grains in a pill, with glycerine of tragacanth.

This aniline product is in brilliant iridescent beetle-coloured crystals, which form an intense deep-red solution in water. Fuchsine is much used for staining histological preparations, and the bacillus of tubercle for microscopic examination.—B.M.J. i./82,916; ii./82,735,786,1156; L. ii./82,183,1078,1138.

For internal use it should be specially prepared, and free from arsenic, otherwise it always contains this poison in variable quantity, owing to the process of its manufacture.—M.T.G. i./70,617. When used as a dye, this impurity may irritate the skin, especially in persons who perspire much.

Useful in renal albuminuria, given in 1 to 4-grain doses in pills.—Pr. xxvi.,40,302; B.M.J. ii./79,947; ii./85,1062; Th.Gaz. March,1888,191.

Use of a solution of this colour, between glass plates in remedying some forms of colour-blindness.—Pr. xxiv.133.

Anthrarobin. A light brownish yellow powder, darkening with age, obtained by reduction from alizarin. It is a powerful deoxidising agent, sparingly soluble in chloroform and ether, but readily so in alcohol or weak alkaline solutions.

It has been used with success in psoriasis, in the form of an ointment, containing from 5 to 10 per cent.—Pr. xlii.56; P.J. 1888,346. Caused smarting, and slow in action.—Y.B. 1890,300.

Is best applied as a tincture, after rubbing the parts with soft soap or soap liniment.—Th.Gaz. Jan. 1889,30.

Antifebrin. (Is patented under this name.)—*Syn.* ACETANILIDE; PHENYLACETAMIDE.

Dose.—4 to 15 grains in cachets or suspended by means of mucilage of tragacanth or acacia in an aqueous vehicle.

May be prepared by the action of aniline on acetyl-chloride or anhydrous acetic acid. It is found in small white odourless glittering crystals, which produce a burning sensation on the tongue, melt at 113° C. and distil at 292° C. It is almost insoluble in cold water, but freely soluble in spirit, and is neutral in its reaction. It is used as a febrifuge and antipyretic, hypnotic sedative, anti-epileptic, anti-arthritic, and nervine tonic, and given with good results in malignant small-pox.—Y.B. 1888,102, 111, 287; L. ii./86,462,645; L. i./87,41 L. ii./87,85,776. Therapeutic study.—B.M.J. i./87,339.

Alcoholic delirium relieved by 10-grain doses.—Th.Gaz. April, 1888,254.

Preferred in Poland to other anti-pyretics; two- or three-grain doses given in phthisis.—B.M.J. ii./87,1396.

Checks the chills and fever of phthisis, quiets the nervous system, and improves the well-being.—Pr.xxxviii.447.

Does not destroy microbes in solutions.—L.ii./87,1132.

Clinical notes and experiments on animals.—Th.Gaz. Dec.1887,840. Preferred for sthenic fevers.—L. i./88, 1108; ii./88,48; Th.Gaz.,Oct. 1889,705.

Relieves the darting pains of locomotor ataxy.—L. i./87,41. Successful in sciatica.—Pr.xlii.131; B.M.J. i./89,374. Useful in enteric fever.—Pr. xliv,14.

For rheumatism acts as the salicylates do, is four times as strong as antipyrin.—Ed.M.J. March, 1887, 850.

Advantages over antipyrin; smaller dose, steadier action, and less danger from collapse.—B.M.J.ii./88,979.

Recommended for diphtheria, and scarlatinal and other forms of sore throat.—B.M.J.ii./89,895; L.ii./89,660.

Of use in epilepsy.—Th.Gaz.Dec.1888,841; June1889, 383; L.ii./89,1024.

Useful as a local application in psoriasis, erysipelas, or eczema; 20 grains to an ounce of vaseline or lanolin. —L.i./89,681; Th.Gaz.May,1889,358.

Toxic effects of two 4-grain doses quickly repeated in a girl of 13; faintness, palpitation, and cyanosis.—L.i./89,1157. Other cases.—B.M.J. ii./89,601; i./90, 288. Y.B. 1890,300.

A useful hypnotic for children.—B.M.J. i./90,43.

Monobromacetanilide, *Syn.*—MONOBROMPHENYLACETAMIDE. A bromine substitution compound of acetanilide, in white acicular tasteless crystals. Suggested for facial neuralgia, neuritis, and rheumatism. *Dose*, 3 to 15 grains.—B.M.J.ii./88,183.

Two cases of cyanosis from its use. B.M.J.i/90,357.

Antipyrin (Is patented). *Syn.*—ANALGESINE: DIMETHYLOXYCHINIZIN (?); PHENYLDIMETHYLPYRAZOLON. *Dose.*—4 to 30 grains in cachets or aqueous solution.

Is in pearly white crystalline scales or powder, melting at 233° F., bitterish in taste, readily soluble in water, and the solution gives a deep red colour with solution of perchloride of iron. It is an analgesic, febrifuge, and hæmostatic, reduces the temperature of fevers, including typhoid, scarlet, relapsing, puerperal, and hectic, and subdues the pyrexia of pneumonia, pleurisy, phthisis, and erysipelas. In doses of 4 to 15 grains it relieves locomotor ataxy, migraine, facial neuralgia, and sea sickness. Hypodermically for lumbago, sciatica, angina pectoris, biliary and renal colic, and dysmenorrhœa. A measly rash has at times been observed after its use; the urine is not discoloured.—L. ii./84,32; L. i./85,34, 1051; B.M.J. ii./84,914; B.M.J. i./85,1223; Edin. Med. Jour. 1884, 390.

To effect material reduction in temperature, 45 to 75 grains are sufficient, given in three doses hourly of 30 grains, then 30 again, and lastly 15 grains; or 15 grains hourly for three hours; 75 grains should suffice for 24 hours. 30 grains dissolved in 16 minims of warm water may be injected hypodermically, or may be given at twice. Peppermint water or essence disguises its taste. It may be administered as an enema if contra-indicated by the mouth. Is incompatible with spirit of nitrous ether, or other nitrites in the presence of free acid, an apparently inert bluish-green compound being formed.—P.J.1889,807; Th.Gaz.Feb.1889,90.

Antipyrin is also incompatible with the cinchona alkaloids, forming a precipitate which is soluble in weak acids.—P.J.1889,61. B.M.J. ii./89,1113.

Liquefactions occur on rubbing it with butyl-chloral hydrate or sodium salicylate, but solutions with the latter keep without perceptible change if dilute.—P.J.1889, 862; Th.Gaz.May, 1889,359. Liquefaction also occurs on mixing with β-naphthol.

A crystalline compound is formed with chloral hydrate, which does not react with nitrous acid, and is therapeutically inactive.—P.J. 1890,602. A similar compound appears to be formed with butyl-chloral hydrate.

Cachets containing 5 to 20 grains are easily taken after being dipped in water.

Granular Effervescent Antipyrin contains 5 or 10 grains in a drachm. *Dose.*—One teaspoonful or more.

Injectio Antipyrin Hypodermica.—1 grain contained in 2 minims. *Dose.*—8 to 30 minims or more. The pain it causes may be lessened by the addition of cocaine, as in

Injectio Antipyrin et Cocainæ Hypodermica, containing 1 grain of Hydrochlorate of Cocaine in 150 minims of above. *Dose.*—8 to 30 minims or more.

Tabellæ Antipyrin contain 5 grains each. *Dose.*—1 to 4 or more.

Antipyrin useful for children; give three doses of as many decigrammes (1½ grains) as the child is old.—Pr.xxxiii.461.

Use in hectic of phthisis; in chronic fever it has no rival.—Pr.xxxiv.321.

Death after administration.—L.i./85,382.

Sea sickness relieved.—B.M.J. ii./87,1355; P.J. 1888, 1005.

Collapse particularly frequent in children.—B.M.J. ii./88,977.

Atropine a prompt antidote; another case gradually yielded to an emetic and purgative.—P.J. 1889,607, ex Dub. M.J.

Typhoid and pneumonia are relieved by its internal use.—B.M.J. ii./85,865; ii./88,977; L. i./86,495.

Relieves pains of labour, does not check contractions. —Pr. xlii.142; B.M.J.ii./88,211; L.i./88,1100; Th.Gaz. March, 1888,174; Feb. 1889,96; March, 216. Failure. —Th.Gaz. Jan. 1889,19.

Relieves labour pains, but diminishes force of contractions.—B.M.J. i./89.545; Th.Gaz. April, 1889,284.

Checks nocturnal emissions, and does not cause acne. —L. i./88,339. Cerebro-spinal meningitis.—B.M.J. i./88,1218.

Risk from impurities.—B.M.J. i./88,661,707.

Is uncertain, and shows dangerous effects in some cases.—B.M.J. ii./86,629.

Chorea quickly relieved by 15-grain doses three times a day.—Th.Gaz. April, 1888,249; B.M.J. i./89,119.

Migraine, small doses of 3 or 4 grains are valuable.—Pr. xl. 99,126,266.

Other references to the cure of migraine and headache. —L. i./86,223; L. i./87.907; L. ii./87,795,948,1162, 1344; B.M.J. ii./87,1379; L. ii./88,163; ii./89,790.

Relieves pains of locomotor ataxy.—B.M.J. i./87,1273.

Relieves rheumatism, better than thallin.—Ed. M.J. Oct. 1886,376; L. ii./86,386; Glas. M.J. May, 1888,548.

Good effects in checking diabetes.—B.M.J. ii./87,961.

Rapidly reduces sugar in diabetes.—B.M.J. ii./88, 977. Other successful cases.—Pr. xlii.454; B.M.J. i./89, 1472; ii./89,656; L. i./89,812; ii./89,431; Th.Gaz. May, 1889,354; June, 395.

Use in diabetes insipidus.—Th.Gaz. Oct. 1889,687.

Summary of its uses, favourable opinion.—Ed. M.J. 1886,171; Th. Gaz. Nov. 1887,773; B.M.J. i./88,1053.

Hæmoptysis checked.—B.M.J. ii./87,1349; L. ii./87, 880. Fails to check bleeding of wounds.—B.M.J. i./88, 1075.

The best antipyretic, but apt to cause cyanosis.—L. i./88,868,918.

Useful as an anodyne in rheumatism.—L. i./88,1024; B.M.J. ii./88,977; P.J. 1889,607; also in sciatica.—B.M.J. i./89,610; Th.Gaz. April, 1889,232.

To be avoided in kidney disease.—B.M.J. i./88,1185; ii./88,977.

Epistaxis stopped by local use of a 1 in 30 solution.—B.M.J. ii./85,993.

Insomnia treated successfully by 6-grain doses.—Pr. xl 50.

Dissipates pain and oppression in aneurysm.—Pr. xli.376; L. ii./88,448.

Valuable in pertussis.—B.M.J. i./89,1247; Th.Gaz. Sept. 1888,608,617; June, 1889,389. Toxic effects following use for whooping-cough.—Pr. xliii./48; Th.Gaz. Aug. 1889,549.

Suppresses flow of milk.—Pr. xlii.209; Th.Gaz. Sept. 1888,647.

Useful in enuresis.—B.M.J. ii./89,838.

Relieves pain of incurable cancer; best combined with morphine.—B.M.J. i./89,355.

Successful in Bright's disease. *Dose.*—3 grains daily.—B.M.J. ii./89,656; L. ii./89,431.

Urticaria cured by 8 grains daily.—Pr. xlii.371.

Toxic symptoms from its use.—B.M.J. ii./88,787, 1357; i./89,1345; ii./89,818; L. ii./88,163,1112; ii./89,313; Y.B. 1890,300.

Antipyrin diminishes the quantity of urine, of total urinary solids, urea and chlorides, and increases uric acid.—B.M.J. ii./88,6,68,977; L. ii./88,55.

Uses and abuses of antipyrin.—Pr. xliii,196; Th.Gaz. July, 1889,453.

Valuable in dysmenorrhœa, dose 10 grains.—L. i/90, 77.

Antipyrin compared with phenacetin. See p. 127.

Antithermin.—*Syn.* **Phenyl-hydrazin-levulinic Acid.** *Dose.*—8 grains.

It is allied to antipyrin, phenyl-hydrazin being an intermediate product in the formation of that body, as well as of this. Is obtained by dissolving phenyl-hydrazin in dilute acetic acid, and adding to it a solution of levulinic acid, which forms a yellow precipitate which is recrystallized from alcohol.—P.J. 1887,801. Not used in England. Is apt to cause stomach pains.

Benzanilide.—*Syn.* **Phenyl-benzamide.**

Dose.—3 to 12 grains.

In small white shining scales, odourless and tasteless; insoluble in water, soluble 1 in 60 of spirit. It is obtained by the action of benzoyl chloride on aniline, being chemically and therapeutically similar to acetanilide.

Has been found specially useful for children.—P.J. 1888,425 (ex Apot. Zeit.). Y.B. 1890,301.

Betol, see p. 263.

Chinolinum.—Chinoline. *Dose.*—3 to 10 minims.

A transparent, colourless, strongly-refracting, mobile, oily liquid, with a peculiar odour, soluble in alcohol, but insoluble in water. May be obtained as a derivative of cinchonine and quinine, but recently prepared by oxidation of nitro-benzene and aniline.—P.J. 1882,245.

Chinolini Tartras.

Dose.—5 to 15 grains in chloroform water, with syrup of orange, or in wafer paper.

This salt is most recommended for use. It is, when pure, in odourless, glistening, white acicular crystals, nauseous in taste, and soluble about 1 in 40 of water.

Salicylate of Chinoline is less soluble than the above.

Tartrate of chinoline is a powerful germicide and antiseptic. A one per cent. solution completely destroys the coagulability of blood, and weaker solutions render sterile, propagating fluids. Therapeutically, it is a powerful antipyretic in enteric and intermittent fevers, useful in periodic neuralgia, and as a local antiseptic.—B.M.J. ii./81,408; P.J. 1881,279,317,532; P.J. 1882, 624,661; L. i./82,324; L. i./85,862.

Used in diphtheria, as a pigment to paint the fauces. 5 per cent. of pure chinoline in solution of equal parts spirit and water, and more dilute as a gargle, checks the onset of the dangerous symptoms and in many cases membrane is cast off within 24 hours.—Pr. xxix.447.

Exalgin.—*Syn.*—METHYLACETANILIDE.

Dose.—2 to 6 grains in cachets or aqueous or weak alcoholic solution. In colourless acicular or tabular crystals, with a slight saline taste. Soluble 1 in 60 of water, freely so in spirit. (Name Exalgin is registered).

Mistura Exalgin.—*Dose* ½ to 1 ounce.

Exalgin 30 grains, Tincture of Orange 2 drachms, Syrup of Orange Flowers 6 drachms, Water to 6 ounces.

Pilula Exalgin.—3 grains (with syrup and acacia).

It possesses chiefly analgesic properties, is useful in neuralgia of all forms, causing no irritation or rash. Also possesses antipyretic and antiseptic properties. In toxic doses causes impulsion, trembling, and paralysis of respiratory organs. Is eliminated by the urine, the quantity of which, and of sugar when present, is reduced. P.J. 1889,781,861 (ex Compt. Rend.); Th.Gaz., May, 1889,339, Aug. 534; Bull. Therap. Oct. 1889,354; Nouv. Rem. Nov. 1889,562; Y.B. 1890,303. 88 cases as an analgesic, 67 successful.—B.M.J. i./90,344; P.J. 1890,710.

Toxic effect, with cyanosis.—B.M.J. i./90,288.

Hydracetin.—Syn.—ACETYL-PHENYL-HYDRAZIN.

Dose.—½ to 3 grains daily, in 1 or 2 doses.

A white, odourless, and almost tasteless crystalline powder, soluble 1 in 50 of water, freely in alcohol. Reduces Fehling's solution, nitrate of silver, and salts of iron, with ferric chloride gives a deep red colour, which is destroyed on heating.

Its administration requires care, and must not be continuous.

An impure preparation, in white powder, containing from 20 to 25 per cent. of acetyl-phenyl-hydrazin, has been used under the name of **Pyrodin,** with uncertain and variable results as an antipyretic. Med.Chron. Nov. 1888,89; B.M.J. ii./88,881,1470; i./89,1376; L. ii./88, 1149,1195; P.J. 1888,425; Th. Gaz. Jan. 1889,22; Y.B. 1890,310.

Hydracetin used as 10 per cent. ointment in psoriasis; cure effected, but toxic symptoms caused by its absorption. L. ii./89,397; P.J. 1889,61.

Kairine. *Syn.* — OXYCHINOLINE-ETHYL HYDROCHLORATE.

Dose.—5 to 8 or 15 grains in pills with glycerine of tragacanth, or in cachets. (A patented preparation.)

Is used as a febrifuge. It is in minute white granular crystals, freely soluble in water, less so in alcohol, insoluble in ether; the aqueous solution is precipitated by ammonia; the taste is saline, bitter, and persistently nauseous. At London Fever Hospital no patient could be induced to take a second dose in solution.

Used in various fevers, and acute inflammations, it may colour the urine green.—L. ii./83,344,552.

Peritonitis 3 cases, doses of 3 grains every hour, reduced pulse and temperature.—B.M.J.i./84,250.

Clinical note on; is a very powerful, if not the most powerful antipyretic.—B.M.J.i./84,711.

Best given hypodermically; acts more rapidly, and effects last longer.—L. ii./84,32.

A good and safe antipyretic; in rheumatism it reduces the temperature, and produces copious perspiration.—B.M.J. ii./84,1125.

Reduces the oxygen-absorbing power of the blood.—Pr. xxxiii.56.

Methacetin.—*Syns.*—PARA-ACETANISIDIN, OXYMETHYLACETANILIDE.

Dose.—2 to 6 grains in cachets or mucilaginous fluid.

In white glistening scaly crystals, with a slightly bitter, saline taste, and neutral reaction. Soluble 1 in 260 of water, freely soluble in alcohol, chloroform, and glycerine. Is an anti-putrescent, and corresponds in action to phenacetin. P.J. 1889,861,61; Th. Gaz. 1889 May, 340, Sept. 628: Y.B. 1890,306.

Orexine.—*Syn.*—OREXINE HYDROCHLORIDE, HYDROCHLORIDE OF PHENYLDIHYDROCHINAZOLIN.

Dose.—In coated pills, 3 grains each, 1 to 3 once or twice daily, with a cup of broth or hot fluid.

In whitish powder, with a nauseous bitter taste, irritating to the nostrils; freely soluble in water and alcohol.

Acts as a stomachic and appetiser, stimulating gastric secretion.—P.J. 1890,709; C. & D. i/90,300.

Phenacetin. *Syn.*—PARA-ACET-PHENETIDIN. *Dose*[1]—4 to 8 increased to 15 grains, in cachets, or suspended in mucilaginous fluids.

An acetyl compound of Phenetidin (the ethylic ether of paramidophenol). It is analogous with acetanilide (antifebrin). It is in white, shining, laminar crystals, inodorous and tasteless, insoluble in water or glycerine, freely soluble in hot alcohol, insoluble in acid or alkaline solutions. — B.M.J. i./88,1126; i./89,521; ii./89,1417; Y.B. 1890,310. Lactic acid aids its solution if heated.—P.J. 1888,409.

Doses of 4 to 8 grains reduced temperature in cases of pyrexia, but effects are only of short duration. Phenacetin 3 grains, Citrate of Caffeine and Sugar, of each 1½ grains, is useful for sick-headache.

As a febrifuge, 8 to 12 grains every 4 hours.—B.M.J. i./88,744,901; Th. Gaz. Nov. 1887,765,773; P.J. 1888, 1005; L. i/89, 497.

Is an undoubted anti-pyretic, 10 cases treated by doses of 5 to 8 grains, action begins within half an hour after administration.—Pr. xl.344; B.M.J. i./88,1113.

Reduces temperature and soothes pain; causes no rash or cyanosis. Successful in rheumatism, neuralgia, migraine, and hysteria.—B.M.J. ii./88,23; i./89,101, 521; Th. Gaz. July, 1889,482; C. & D. ii./88,181.

Recommended in pertussis; no ill effects.—L. i./89, 701; ii./89,871; Th. Gaz. Aug. 1889,556. Useless.—Pr. xlii.296; Th. Gaz. Aug. 1889,537.

Uses and abuses of Phenacetin.—Pr. xliii.191; Th. Gaz. July, 1889,453.

Report on the coal tar antipyretics:—Antipyrin the best in regard to efficacy, rapidity, and certainty of action; phenacetin in regard to safety and duration of effects, having never produced subnormal temperature or collapse. All cause profuse perspiration, but do not shorten attack of fever. Phenacetin alone possesses a soothing and soporific action, doses of 3 or 4 grains being sufficient to ensure a quiet night.—Pr. xliii.266.

Saccharin.—See p. 339.

Thalline, Tetrahydroparamethyloxychinoline or Tetrahydroparachinanisol. (Is patented.)

Syn.—THALLINÆ SULPHAS, Sulphate of Thalline.

Dose.—3 to 8 grains.

In white or whitish granular crystals, melts at 212° F., has a nauseous, slightly pungent taste, soluble 1 in 5 of cold water, which darkens by exposure to light; a dilute solution gives an emerald green colour with perchloride of iron, after some hours passing to a deep red. It possesses marked antipyretic properties, but diminishes the respiratory capacity of the blood by destroying its hæmoglobin, in this respect resembling kairine rather than antipyrin. Full doses have been known to produce dark-coloured urine. Reports of its action are found to vary; some have noticed a gradual fall in temperature and absence of secondary disturbance, whilst others note a sharp fall, followed by rigors.—L. ii./84,1018; L. i./85,723; B.M.J. i./85,1176.

Bougies of Thallin, $2\frac{1}{2}$ and 5 per cent. Contain 1 or 2 grains in each, combined with gelatine, and

Antrophores, or spiral spring bougies coated with gelatine, and medicated with 5 (or weaker $2\frac{1}{2}$) per cent. of thalline, have been used for gonorrhœa.—L. i./88,591; B.M.J. ii./88,886.

Report from Zurich, it is better than kairine, and less valuable than antipyrin.—Pr. xxxvi.127.

In rheumatism is less valuable than antipyrin.—L. ii./86,386.

Cardiac weakness and kidney disease forbid its use.—Th.Gaz.Jan.1888,40.

In typhoid acts as a specific.—B.M.J. i./86,83.

Fatal effects follow its use. A case in which dose was increased up to nine grains proved fatal; four grains should not be exceeded.—B.M.J. i./87,793.

Successful use of injections of 1 to 2 per cent. in gonorrhœa.—L. ii./88,392,437

COCA (*Off.*).

Syn.—CUCA.

Dose.—½ to 2 drachms.

The dried leaves of *Erythroxylon Coca*, a shrub cultivated on the slopes and plateaux of the Andes, chiefly in Bolivia and Peru, but also in the Argentine Republic, Ecuador, United States of Columbia, and Central America, as far north as San Salvador.

They are one to two or more inches long, oval oblong, but some are ovate, while others are obovate, entire on the margin, sometimes acuminate, but usually blunt and emarginate, and often with an apiculus in the notch at the apex; rather thin, smooth, with a prominent midrib, and on each side a curved line running from the base to the apex. They have a slight odour of tea, and a somewhat grass-like, bitter, aromatic taste; in colour they vary from a pale bright green, changing to a yellowish green (Peruvian variety)—this is smaller, thinner, and much broken—to a dull brownish olive (Bolivian variety): this is larger, broader, and a thicker leaf, not broken, paler in colour beneath; the inner curved lines from base to apex are very marked on this, but only faintly on the Peruvian variety, in some leaves hardly discernible. In selecting them, care should be taken that they have not fermented or become fusty; they may appear of a good green colour, yet have a mouldy taste. The Coca plant has been acclimatised in Ceylon and some parts of India.

The uses of the Coca leaf in Bolivia and Peru have been described by many travellers, who have seen it chewed. From two to eight or twelve drachms or more is used daily, in conjunction with the ashes of the Quinoa plant or with lime, as a remedy for, or preventive against, the effects of extraordinary physical exertion, to relieve the difficulty of respiration in ascending mountains, and to appease hunger, thirst, and fatigue. The leaves contain the crystalline alkaloid Cocaine (see page 131). They are said to be most active when freshly dried, and are much used by the native Indians, miners, travellers, and others.

Elixir Cocæ.—1 in 6 of Simple Elixir.

Dose.—1 to 4 drachms in water is a palatable preparation.

Extractum Cocæ Liquidum (*Off.*).

Syn.—EXTRACTUM ERYTHROXYLI FLUIDUM, U.S.

Dose.—½ to 2 drachms.

Coca leaves are exhausted by percolation with proof spirit, the second part of percolate concentrated and dissolved in the first portion, and the strength adjusted so that 1 ounce = 1 of leaves; this is about six times the strength of the French nostrum mentioned below. If freed from wax, it is miscible with water and more palatable.

By distilling off the spirit and concentrating by evaporation, a solid semi-alcoholic preparation is obtained about four times the strength of the above, known as:—

Extractum Cocæ.

Dose.—2 to 15 grains or more, in pills or pastils.

Infusum Cocæ.—1 in 50 of boiling water.

Taken hot like tea with milk and sugar, or with a slice of lemon, it forms a refreshing beverage. In tonsillitis it may be used warm as a gargle.

Pastillus Cocæ Extracti.—2½ grains of the extract in each.

Dose.—One every two or three hours.

Coca pastils are good; cocaine cured case of asthma of 15 years' standing; recommended for hay-fever, spasmodic asthma, and post-nasal catarrh.—M.P.C. ii./85,320.

Vinum Cocæ.—1 in 30 of Sherry. A port or red wine vehicle is sometimes preferred.

Dose.—½ ounce to a wineglassful.

French nostrums, much advertised, are a **Wine of Coca**, containing about 1 in 30—*dose*, a wineglassful—and a **Liquid Extract**, and an **Elixir**, about 1 in 6—*dose*, 1 to 4 drachms.

Coca has been praised as a nervine and muscular tonic, preventing waste of tissue, appeasing hunger and thirst, relieving fatigue, aiding free respiration, and as being useful in various diseases of the digestive and respiratory organs. It is said to be specially useful in many forms of asthma, chronic bronchitis, obstinate cough, phthisis, and general debility; in gastric derangements, owing to its slight astringency, it seems to give more tone to the stomach than the mere anæsthetic action of the Cocaine it contains would produce locally; it is recommended for indigestion, gastralgia, gastrodynia, nausea, sickness, distaste for food, is given to relieve pain, nausea, vomiting or discomfort caused by excess in either eating or drinking or by prégnancy, and as a cure for morphine and alcohol craving. In using it for this in America it is said in some cases to have produced "Coca Craving."

Coca is also said to cause mental exhilaration, has been used in melancholia, in cases of inordinate hunger or thirst, such as occur in some forms of diabetes, and in cases of generative debility. Locally, a solution of the extract in water has been used as a pigment in irritated, inflamed, and granular conditions of the larynx and pharynx.

The pastils have been used similarly for loss of voice due to weakness or relaxation of the vocal cords. Topically these preparations act as astringent sedatives without deranging the stomach. Externally, Coca may be made into poultices, or a plaster made with the extract combined with resin or soap plaster may be applied for rheumatism, lumbago, &c. The leaves are sometimes smoked to relieve asthma.

The leaves are chewed to appease hunger and support strength, in the absence of food, and used generally for the stimulant and narcotic effects of tobacco and alcohol. —Pr. xvi.467.

Coca-leaves as an inhalation, or smoked in a pipe, have a decided effect on bronchial spasm.—L. i./76,520.

Is of use to steady the nerves of excitable persons—to a sportsman in shooting, for example; to give endurance, is used by travellers in Bolivia and Peru, and to counteract the effect of rarefied air on mountains.—L. ii.76,449.

Historical and botanical account of the plant and its uses; the result of a series of experiments on its use was most unsatisfactory, although the drug was given in every variety of ways, under all circumstances, and at all hours of the day.—L. i./76,631,664.

Two ascents of Ben Voirlich, under the influence of, respectively, 60 and 90 grains, done with ease by Sir Robert Christison. By the use of Coca hunger and thirst are suspended, but eventually appetite and digestion are unaffected; the mental faculties are not affected after great bodily fatigue, except by freeing them from dulness and drowsiness.—B.M.J. i./76,527; P.J. 1876,883.

Twelve athletes, during a game, chewed, without lime or ashes, from 60 to 90 grains; at first in some, dryness was felt, and relieved by washing the mouth; then followed a feeling of invigoration, so that fatigue was wholly or in great part resisted; the pulse increased in frequency, and perspiration augmented. Save exhilaration of spirits, no mental effects were noticed or disagreeable effects realized.—P.J. 1877,221.

It enables a greater amount of fatigue to be borne with less nourishment, and lessens the difficulty of respiration in ascending mountain sides. Tea made from it has much the taste of green tea, and is much more effectual in keeping people awake.—Markham's Peruvian Bark, p. 152.

In France, Bouchardat states it has rendered most valuable therapeutic service, almost equal to cinchona bark. It is a stimulant to the nervous and muscular systems, and ranks with tea and coffee; it prevents the rapid waste of tissue, and enables the consumer to go a long time without food.—B.M.J. i./76,486.

Use in walking feats.—B.M.J. i./76,335,361,387,518, 519,750,752. Climbing Mont Blanc.—M.T.G. ii./82, 165.

The leaves are neither nutritive nor tonic; it is in their anæsthetic properties, developed by chewing the leaves with lime or plant ash, the Indian finds the numbing effect on the mucous membrane of the stomach that he seeks.—P.J. 1885,266.

Wine of Coca checks vomiting of irritable stomach.—L. ii./85,1078.

Fluid extract of Coca relieved hæmorrhage from bowel when given internally.—Pr. xxxv.401. And gives great relief in gastralgia.—M.P.C. ii./87,479.

Report on the Coca alkaloids.—B.M.J.i./89,1043, 1108,1158.

Cocaina, Cocaine.

Dose.—$\frac{1}{10}$ to 1 grain, in a pill or tablet.

This now important alkaloid, obtained from Coca was first isolated by Niemann in 1860. It crystallizes in colourless monoclinic prisms, and requires 700 or more (upwards of 1,300, Dr. Paul) parts of water to dissolve it, it is more soluble in alcohol (about 1 in 20), freely so in chloroform, ether (about 1 in 3), oil of cloves, and many other volatile oils, and 1 in 10 respectively of melted vaseline and castor oil, and other fixed oils. The latter solutions have proved serviceable in eye cases. The following are also ready solvents, each taking up about 1 of it in 3 parts: benzol, toluol, and amylic alcohol; of petroleum spirit about 25 parts are required. It is almost tasteless, but produces a tingling numbness on the tongue and local anæsthetic action on all mucous membranes. Good Coca leaves yield 0·5 per cent. or more of Cocaine, but the average is less, if fermented—often *nil.* Cocaine seems to be very sensitive to chemical and physical action, and readily yields derivatives. The dried leaves are also said to contain Hygrine (?) a volatile principle, with Cocamine, Cocaidine, Ecgonine, Coca-tannin, and Coca-wax. Ecgonine (together with benzoic acid and methyl-alcohol) may also be obtained as a derivative from Cocaine, and by heating benzoyl-ecgonine, a by-product obtained in the manufacture of and probably a derivative of Cocaine, mixed with iodide of methyl and methyl alcohol, Cocaine (methyl-benzoyl-ecgonine) has been obtained synthetically.

On combining Cocaine with benzoic acid, Benzoyl-ecgonine appears to be formed—the aqueous solution is not precipitated by ammonia.

Report on action of ecgonine, benzoyl-ecgonine, and cocamine.—Th.Gaz. Oct. 1889, 698.

Cocaine is prepared by treating the powdered leaves with a solution of carbonate of sodium, drying the mixture and exhausting it with petroleum spirit. The latter, which dissolves the cocaine with very little colouring matter, is agitated with very dilute hydrochloric acid, the petroleum is decanted and the cocaine precipitated from the aqueous solution by adding carbonate of sodium again. The precipitate is separated by shaking with ether, which on evaporation yields crystals of almost pure Cocaine. Most of the Cocaine now used is manufactured in South America in a crude form, and is purified and recrystallised or converted into a hydrochlorate after its arrival in Europe.

No coloration is produced by dissolving pure Cocaine or its hydrochlorate in cold concentrated sulphuric acid; with the salt, effervescence occurs, owing to hydrochloric acid gas being set free. Some samples of them give a faint evanescent yellow coloration, and others give a magenta tinge which gradually passes to a brownish yellow, and eventually the solution becomes almost colourless.

As pure Cocaine (the alkaloid) is soluble in fats and oils, and its salts are not, it should always be used when it has to be combined with fatty or oily substances, for use externally, *e.g.*:—

Bougies of Cocaine. ½ grain in each or more, with cacao-butter. Are useful in painful affections of the urethra.

Ceratum Cocainæ. 1 in 30 of petroleum cerate. Is useful in burns, scalds, urticaria, pruritus, &c.

Collodium Cocainæ. 2 per cent. in flexible collodion. Allays the itching, and is a cure for inflamed chilblains.

Emplastrum Cocainæ.—1 dissolved in 50 of lead plaster heated in a water bath. Useful for intercostal neuralgia, sciatica, tender corns, bruises, &c.

Oleatum Cocainæ.

A saturated solution of the alkaloid in oleic acid; heated, one part will dissolve in two parts of oleic acid; it may be further diluted with oleic acid or oil. Has not proved so satisfactory a preparation as

Oleum cum Cocaina.

A 2 per cent. solution, more or less, if ordered, in almond oil, is mostly used. This is useful for earache. For the eye a 2 per cent. solution in **Castor Oil** is used, may be combined with homatropine, see p. 70; for catheters, a solution in equal parts castor and almond oils does well, it is viscid, and does not congeal in winter.

Suppositories and **Pessaries of Cocaine** have ½ grain (or more, if ordered) in each with cacao-butter.

Tabellæ Cocainæ, Cocaine Tablets. $\frac{1}{20}$ grain in each, with chocolate.

Dose.—1 every quarter-, half-hour or hour, quickly eaten and swallowed. Useful for sea sickness, chloroform or alcohol sickness, sickness of pregnancy, &c. They are also made containing $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, 1 and 2 grains in each respectively.

Unguentum Cocainæ. 1 in 30 of lard or lanolin (more or less, if ordered). Cocaine is soluble 1 in 2 of anhydrous lanolin if gently warmed.

Useful where absorption is required, as in facial neuralgia, shingles, eczema, erysipelas, urticaria, and pruritus.

Vaselinum Cocainæ. 4 per cent. (more or less, if ordered).

Suitable for the eye; is very bland; also for smearing catheters, burns, scalds, &c.

Cocainæ Citras, Citrate of Cocaine.

Dose.—$\frac{1}{20}$ to 1 grain or more.

Is in deliquescent small white crystals; used by dentists.

Cocainæ Hydrobromas, Hydrobromate of Cocaine.

Dose.—$\frac{1}{20}$ to 1 grain, in a pill or solution. Is a stable salt, in odourless, small, white, hard, acicular crystals.

Cocainæ Hydrochloras (*Off.*).

Off. Dose.—"$\frac{1}{5}$ to 1 grain," but less and more may be given, in aqueous solution, pill, or pastil.

This salt has been most used: if pure it is in hard, colourless acicular or lamellar crystals, free from odour and almost tasteless, and being soluble in half its weight of water, the tingling numbness and local anæsthesia it produces are more intense than that produced by pure cocaine.

Freely soluble in spirit and in glycerine, insoluble in ether, fats, and oils, and therefore it is not so compatible with them. This salt will crystallize with 10 per cent. of water of crystallization, but the anhydrous salt alone is official. It dissolves with effervescence but without colour in cold sulphuric acid (*see* Cocaine, p. 131), but chars if heated. Ignited in the air, it burns without residue. Its aqueous solution gives a white precipitate with carbonate of ammonium, soluble in excess. If two drops of solution of permanganate of potassium be added to a solution of 1 grain of it in a drachm of distilled water, the red colour remains for some time, as the manganese salt is not reduced. The salt should not only be in good crystals, but should yield a distinctly crystalline precipitate of pure cocaine within three minutes, when 1 grain of it is dissolved in 2 ounces of distilled water, and six to eight drops of solution of ammonia, B.P., are added and well stirred. The precipitate redissolves after twenty-four hours or more, the cocaine being converted into, and held in solution as, benzoyl-ecgonine. —P. J. 1888, 783. It is an antiseptic, a five per cent. aqueous solution delays the putrefactive changes in an extract of meat; yet fungi occasionally grow in its aqueous solutions.

As with an aqueous solution of sulphate of atropine, so with an aqueous solution of hydrochlorate of cocaine, some samples seem prone to grow fungi, while others will not. Evil results having followed the application of Cocaine as an anæsthetic in several dental and eye operations, the bad effects have been attributed to these fungoid growths. Whether due to these, to impurity of the salt, or to idiosyncrasy of the patients is not clear. Three London surgeons who have used it very largely say they have never seen any untoward results from its use in simple aqueous solution. But carbolic, salicylic, boric, and benzoic acids, perchloride of mercury, thymol, camphor, and chloroform have been added to check the growth of fungi; a half to one per cent. of boric acid has been particularly recommended, yet it is of little use, as an aqueous solution of boric acid itself sometimes grows a fungus; chloroform is the least objectionable, except for eye drops. Perchloride of mercury is useless, as it forms a double salt with the Cocaine. All these additions do but contaminate, and are unwarranted in dispensing unless specially ordered. By a careful selection, and the testing of each supply purchased, the writer has come to the conclusion that, if the solution in distilled water be sterilized by boiling, and afterwards kept free from dust, such additions are unnecessary. *The brush applying it should not be dipped in the stock of solution.*

Buginaria Cocainæ Hydrochloratis, NASAL BOUGIES OF HYDROCHLORATE OF COCAINE.

One-sixth of a grain in each with gelato-glycerine basis. Useful in hay fever, sometimes combined with $\frac{1}{120}$ grain of sulphate of atropine in each.

Hypodermic Lamels of Cocaine contain $\frac{1}{4}$ grain.

Injectio Cocainæ Hydrochloratis Hypodermica. 1 grain in 20 minims.

Dose.—2 to 10 minims. For sciatica and many local affections acts better than morphine.

Lamellæ Cocainæ, Discs of Cocaine (*Off.*).

Discs of gelatine, each containing $\frac{1}{200}$ grain of hydrochlorate of cocaine. These should be prepared in an atmosphere carefully freed from dust and germs of fungi and disease. Also prepared containing $\frac{1}{50}$ grain in each, and in combination with Atropine (p. 66), Homatropine (p. 70), and Physostigmine (p. 304).

Liquor Cocainæ Hydrochloratis. 2 to 50 per cent. in water sterilized by boiling.

Pastillus Cocainæ Hydrochloratis. $\frac{1}{20}$ grain in each (or more if ordered, *e.g.*, $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, 1, and 2 grains respectively).

Useful in allaying irritation of the throat and hoarseness. They invigorate the vocal organs of singers and public speakers.

Pastillus Cocainæ et Morphinæ contains $\frac{1}{30}$ grain Cocaine and $\frac{1}{60}$ grain Morphine.

Pilula Cocainæ Hydrochloratis. $\frac{1}{5}$ grain in each (or more, if ordered), with sugar of milk and syrup *q.s.* to make a grain pill.

Tabloids of Hydrochlorate of Cocaine. $\frac{1}{10}$ and $\frac{1}{6}$ grain each. Are prepared for hypodermic injection.

Trochisci Cocainæ Hydrochloratis. $\frac{1}{12}$ grain in each. Used for similar purposes to the pastils.

Cocainæ Saccharis, Saccharite of Cocaine.

Cocaine combined with Saccharin, forms a white, deliquescent, amorphous salt, very soluble in water. The solution is said, on account of its sweetness, to make a useful application for the throat, especially of children.

Dose.—$\frac{1}{5}$ to 1 grain.—B.M.G. i./88.544.

Cocainæ Salicylas. *Dose.*—$\frac{1}{5}$ to 1 grain or more.

Is in minute snow-white crystals, slightly deliquescent; it forms a solution which keeps well, but is a doubtful salt. In spasmodic asthma, the hypodermic injection of a good dose (6 grains), at the beginning, relieves the attack.—B.M.J. ii./86, 117.

Cocaine and its salts, although selling at one time as high as 3s. 6d. per grain, are now reduced to a very moderate price.

The curious property cocaine possesses of producing local anæsthesia was even noted by the discoverer of the alkaloid—Niemann, who, so far back as 1860, wrote: "It produces temporary insensibility on the part of the tongue with which it comes in contact" (Watts's Dict., i. 1059, *ex* "Ann. Ch. Pharm." cxiv. 215). This interesting fact lay dormant until in 1884 Herr Koller, in Vienna, was led to test the local anæsthetic action of the hydrochlorate of the alkaloid, on account of the effect he had witnessed when cocaine in solution was pencilled upon the pharynx to render it less susceptible in laryngoscopic examination. A vial of the solution was given by Herr Koller to Dr. Brettauer, of Trieste, who, on Sept. 15th, 1884, demonstrated its properties at the meeting of the Ophthalmological Congress in Heidelberg. Several experiments were made with the two per cent. solution, which showed that when two drops of the liquid were placed upon the surface of the normal cornea, and the application repeated after an interval of ten minutes, at the end of ten minutes more, the sensibility of the cornea was so far diminished that it could be pressed with a probe; the cornea and the surface of the eyeball and eyelids adjoining could be rubbed; a speculum could be inserted and the lids widely separated, and the conjunctiva could even be seized with fixation forceps, and the eye moved in various directions without causing the patient notable discomfort.

Besides rendering the superficial structures of the eye anæsthetic, it is a mydriatic, and paralyses the accommodation, which passes off sooner than the dilatation of the pupil; this does not at longest last more than twelve hours. The sensitiveness of the iris is less affected than that of the surface of the eye. The great excellence of cocaine consists in the limitation of its action to the tissues to which it is applied. No doubt, other symptoms at a distance do result from the application of the anæsthetic, but they have been, for the most part, insignificant and free from dangerous consequences. In some measure cocaine may be compared with curare. The one agent paralyses the termination of the sensory nerves, whilst the other paralyses the termination of the motor nerves. Aconite would seem to act in a manner the very reverse of cocaine. When applied to a mucous membrane, it has probably a constricting action on the vessels, produces a blanching of the part, and simultaneously a deadening of the nervous excitability which passes into a complete state of anæsthesia; its effect, however, does not sink deeply into the adjacent tissues, nor does it last long. This surface application is sufficient to render painless the use of a caustic, the passage of catheters and lithotrites, or the performance of operations which do not involve the more deeply-seated tissues. Such operations as the opening of abscesses and buboes, the removal of small tumours, require the surface anæsthesia to be supplemented by two or more hypodermic injections, of a quarter of a grain in each, of the hydrochlorate in close contiguity to the part to be operated on. Injected hypodermically, the aqueous solutions of its salts deaden sensibility around the puncture, so that the deep prick of a pin is not felt—the surrounding part is reddened, but after thirty minutes it resumes its normal condition; injected locally, is more useful than morphine in relieving sciatica. Although solutions of it are little absorbed by the skin,—even a chloroform solution is scarcely at all absorbed,—yet the application of an ointment of the pure alkaloid, made with lard or an oily solution, to a surface will remove the pain of inflammation, as in eczema or erysipelas, or the pain of facial neuralgia or shingles, and the irritation of urticaria or pruritus. Burns and scalds should first be brushed over with a 4 per cent. aqueous solution of the hydrochlorate, and the pure alkaloid, combined with carron oil (Linimentum Calcis), petroleum cerate, or boric acid ointment, afterwards applied on cotton wool or lint. Combined with boric acid ointment, also, it may be used for fissured nipples, or for these and stings and bites of insects an aqueous solution may be applied. The irritability of inflamed mucous surfaces, as in hay-fever, influenza, coryza, bronchitis, spasmodic asthma, laryngitis, and pharyngitis, is much relieved by the spray of a watery solution of a cocaine salt. In obstetrics, its local application relieves the pain of the dilating os uteri, and diminishes the sensibility of the perinæum whilst being dilated in first labours; rents of the perinæum may be stitched up almost painlessly under its action, and under its influence many minor gynæcological operations are much facilitated by the ability to insert needles and make small incisions without pain. The spasmodic and painful affections of the vagina, causing dyspareunia and vaginismus, may be minimised, by vaginal injections of a quarter of a grain of cocaine in 1 per cent. oily solutions. In dentistry, it is useful in toothache; it deadens the sensibility of exposed pulp. The pure alkaloid is preferable to the salts for this purpose, because, being less soluble in water, it is less liable to be washed away by the saliva. If a little be inserted in the cavity of a carious tooth and covered with a plug of mastic solution, all pain is obtunded for a considerable time. A strong solution in oil of cloves is also useful. In preparing the cavity, previous to filling, the sensitiveness of the dentine is more effectively treated by using a salt of cocaine—either the hydrochlorate or citrate; the latter has been recommended, as it can be formed into a pellet with the fingers and pressed into the cavity, but it is not so rich in true alkaloid as the hydrochlorate; yet, either of these is absorbed more quickly than the alkaloid itself, which, as before said, is more suitable for plugging a cavity for some length of time. Before using arsenical paste to destroy the nerve when exposed, if about a quarter of a grain of a cocaine salt be inserted into the cavity, after partially clearing, it will anæsthetize the pulp in about five minutes, and enable the operator thoroughly to open the cavity and expose the pulp directly to the action of the arsenical paste without pain to the patient. In extraction, if a dose be hypodermically injected into the gum on each side at the base of the tooth, after waiting about five minutes this may be done almost painlessly, and, if a 50 per cent. aqueous solution of the hydrochlorate be painted on the surrounding gum, the first pain of inserting the forceps is annulled. The eye, ear, throat, mouth, tongue, pharynx, nose, larynx, trachea, urethra, vagina, os uteri, anus, rectum, and, in fact, the whole mucous membrane, as well as cut surfaces and open sores, are affected by it, and the true skin less so.

Solutions of hydrochlorate of cocaine have been employed topically in excision of the tonsils, cauterizing the turbinated tissue of the nose, painting chancres previous to the application of nitric acid or other caustics, opening abscesses, removing polypi, and many cases of iridectomy and operation for cataract, squint, and removal of foreign bodies from the eye. For the eye an aqueous solution of the hydrochlorate of cocaine of 2 to 4 per cent. is generally used, and a 4 to 20 or even 50 per cent. for other purposes; of the weaker solutions it is necessary to repeat the application three to five times, at intervals of three to five minutes. No operation should be commenced within at least ten minutes of the first application. No injurious effects, either local or constitutional, seem to follow its use. Its action commences in three minutes, increases from ten to twenty minutes, and mostly disappears within half an hour.

Chloroform and Cocaine Anæsthesia (combined). Chloroform is given, 1 to 3 drachms, with an Esmarch's mask, and from $\frac{1}{2}$ to $\frac{3}{4}$ grain of cocaine, in 3 to 5 per cent. solution, injected into the part. Less chloroform suffices, vomiting is rare, and depression on waking slighter than chloroform alone produces.—L. ii./88,220; B.M.J. ii/88,903. Th. Gaz. Sept. 1888, 630; Oct. 686; Dec. 849.

Equal parts of an 8 per cent. solution and liquor atropinæ sulphatis form an effective remedy for all painful and inflamed conditions of the eye; and half a grain of pilocarpine nitrate, added to 1 drachm of a 4 per cent. solution, produces anæsthesia without in the least disturbing the accommodation.—Whitla.

As regards the toxic properties of cocaine, its effects appear to be mild and not cumulative. It causes cessation of respiration,—small doses have an exhilarating effect on the nerve-centres and other parts of the nervous system. In a case of attempted suicide by an apothecary, a dose of 1·5 grammes (23 grains) seemed to have no seriously injurious effect.—Varge's "Zeitschr." v.f. 11, 5, p. 222, 1863.

A writer in the *British and Colonial Druggist*, Feb. 1885, p. 36, describes the effect of doses of the hydrochlorate, equivalent to 32 grains of cocaine itself taken within three hours. After eleven hours, sleep intervened for thirteen hours, followed by a feeling of dizziness on waking, which entirely disappeared in twenty-four hours.

By physiologists, it had been supposed that cocaine would have properties allied to, if not identical with, caffeine, theine, or theobromine, in the manner that these themselves are allied. But, chemically, cocaine is quite distinct; it is much less soluble in water than caffeine; it is a strong base, which caffeine is not, and its chemical constitution and derivatives are quite distinct from those of caffeine.

Opinions are at present divided as to whether the anæsthesia produced by Cocaine is the result of the vaso-motor disturbance, the small vessels are caused to contract by its application, and the nervous filaments are doubtless anæmic, or whether Cocaine acts directly as a paralyser on the nervous endings, whether of sensibility, or touch, or of special sense, since it removes the power of taste and smell, as well as the perception of touch and pain. When Cocaine is administered in such a dose and manner as to affect the whole system, the brain seems to become excited, the heart stimulated, and blood pressure increased. Poisonous doses kill by asphyxia, the breathing becoming arrested and the heart failing in diastole; but this has not yet been observed in man, the dose necessary to produce this effect being very large; 20 grains have been taken without very serious result. It diminishes all the secretions, and, although the intestinal movements are slightly stimulated at first, larger doses or continued use cause sluggish action, dyspepsia, and constipation. Tissue change is lessened, and the amount of urea is similarly diminished; the temperature seems to be somewhat higher than normal; albuminuria has been found to follow its use, and sugar has also been found in the urine. The kidneys are probably the special means of its elimination. With regard to its action on muscular fibre nothing is known, observers being completely at variance in their opinions. —Buxton, in Ringer's "Therapeutics," 11th edition.

In Vienna, cocaine has been recommended for use internally in cases of great exhaustion, such as loss of blood, sunstroke, or diarrhœa, also by mouth or hypodermically as a cure for morphine and alcohol craving. Morphine and cocaine appear to be mutually antagonistic. Cocaine has been used in some cases of melancholia and insomnia; it also possesses aphrodisiac properties. It was likewise found to lessen the desire for sleep and feeling of hunger, and to be a stimulant which quickly increases and sustains, in a harmless manner, the physical powers of the body, such as are required in long marches, mountain ascents, &c., in dose of $\frac{3}{4}$ to $1\frac{1}{2}$ grains.

Cocaine is a stomachic, useful after excess either in eating or drinking, in distaste for food, in sea sickness and vomiting of pregnancy or from other causes; it also improves the condition of the stomach in atonic indigestion and nervous affections of this organ, as well as in phthisis and cachectic cases, especially those arising from the use of mercury.

Cocaine is a mydriatic; slightly raises the temperature, quickens respiration, and pulse is more frequent; by long use, sleep is longer and more profound. Improves nutrition, useful in insomnia and simple melancholia.—M.R. 1883,86.

Eleven successful cases, including three of operation for cataract, one double iridectomy, one removal of tumour from lid, and three for convergent strabismus. In cases of intolerance of light it acts like magic.—L. ii./84,911.

In papillomata of larynx, interior painted with 20 per cent. solution of hydrochlorate of Cocaine once, in five minutes was able to introduce the forceps four times and remove large portions of tumours without patient experiencing any pain or subsequent shock.—L. ii./84,912.

In quinsy, a 20 per cent. solution useful to paint fauces.—Pr. xli. 47.

Coca and Cocaine are said to have a deleterious action on the voice, slackening and deadening the vocal cords through the paralysis of extensor muscles. The aphony produced is painless.—Th.Gaz. May, 1889,353.

Solution painted on or injected into piles relieves the pain of operating on them.—B.M.J. i./85,227; ii./86, 586; L. i./86,527.

References to its surgical use as a local anæsthetic:—L. ii./84,608 (ophthalmic), 683 (ophthalmic), 936 (laryngeal), 975 (ophthalmic), 975 (nasal), 992 (ophthalmic), 1022 (physiological action), 1023 (ophthalmic and aural), 1068 (ophthalmic), 1097 (ophthalmic), 1123 (ophthalmic and dental), 1167 (circumcision and catheter passing); L. i./85,86 (uterine, vaginal, and oral), 123 (in tenesmus), 130 (on mucous membranes), 168 (dental), 220 (rectal), 226,315 (minor surgery), 965 (ophthalmic), 1033 (fistulas, canals), 1067 (ophthalmic), 1097 (nasal), 1112 (ophthalmic); B.M.J. ii./84, 761 (ophthalmic), 1074 (laryngeal), 1132,1142,1143,1249,1256 (ophthalmic), 1133 (dysphagia), 1188 (throat and nose), 1255 (laryngoscopic), 1256 (midwifery and tinnitus); B.M.J. i./85,45,77,134,145,863 (effects on the eye); B.M.J. i./85,24,36,77,235,286,456,792,1266 (ophthalmic surgery); B.M.J. i./85,36,47,209,456,479 (nose and larynx); B.M.J. i./85,377 (cancer); B.M.J. i./85,227, 653,994 (rectal operations); B.M.J. i./85,17,36,47, 361,904 (vagina and urethra); B.M.J. i./85,17,24, 36,69,736,926 (in dentistry); B.M.J. i./85,402 (for scalds); B.M.J. ii./85, 396 (tumour of lip removed); B.M.J. ii./85,1060 (removal of ingrowing toe-nail); L. ii./85,829 (preceding iodine injection in hydrocele); B.M.J. ii./86,413 (dilatation of urethra); B.M.J. ii./88, 491; i./89,1113 (minor surgery); B.M.J. i./89,943 (circumcision).

Translation of Carl Koller's report of the earliest observations on the use of cocaine and its salts as local anæsthetics.—L. ii./84,990.

Hydrochlorate of cocaine, 20 per cent. solution allowed nitric acid to be applied without pain.—L. ii./84,1023.

In skin diseases, relieves the inflammation in eczema and acne and the irritation of urticaria.—L. i./85,76.

Physiological action.—L. i./85,439; i./88,1041.

Résumé of action and uses.—B.M.J. ii./84,1081, 1132; B.M.J. i./85,36; i./86,527,574; Pr. xxxiv.56.

Physiological experiments on animals.—B.M.J. ii./84, 1313; B.M.J. i./85,17,97,863.

Chemical researches by Paul.—B.M.J. i./88,709.

Checks hæmorrhage from lips and gums in purpura. —L. i./85,581; Pr. xxxiv.450.

Hay fever relieved by solution applied locally to nose and eyes.—L. i./85,925; ii./85,50,99,123,232,820; B.M.J. i./85,1084,1291; ii./86,18; i./88,1329.

For moles, warts, &c., about 6 grains of cocaine to a drachm of nitric acid applied once or twice a day with the point of the rod of an acid bottle is painless; a ring of melted wax should be put round the mole first.— L. i./85,1052.

In senile gangrene, the intense pain of, relieved by a 4 per cent. solution on contiguous parts. — B.M.J. i./85,653.

In coryza, 4 per cent. solution useful applied on cotton wool.—B.M.J. i./85,430,1084.

The mydriatic effects on the iris, and on the tension of the eyeball, locally applied.—B.M.J. i./85,1303.

Summary of its effects on the eye, viz., dilatation of pupils, constriction of small peripheral vessels, paralysis of accommodation, and enlargement of the palpebral fissure; the effect is local only, by paralysing the endings of the sensory nerves, and irritating the sympathetic nerves.—Pr. xxxiv.1.

The painless removal of urethral caruncles.—B.M.J. ii./85,153; and of epithelioma.—L. i./87,56.

In obstetrics, several valuable applications.—Pr. xxxiv.65; L. ii./87,754,1061.

Gonorrhœa, acute, 2 per cent. solution injected relieves the pain.—Pr. xxxiv.222.

Rectal and prostatic pains relieved by ½ grain suppositories.—Pr. xxxiv.128.

Dysmenorrhœa, the pain of, removed by painting the cervix with 4 per cent. solution.—B.M.J. ii./85,399.

In supra-orbital neuralgia, a 10 or 20 per cent. solution in oil of cloves rubbed into the part affords immediate relief; with summary of its medical uses.—Pr. xxxiv. 59; M.R. 1884,516.

In sea sickness, several cases, $\frac{1}{16}$ grain doses every two or three hours in aqueous solution were successful. A girl of 18 had been sick 24 hours before it was tried; she had a double dose every half-hour with "truly magical effect."—L. ii./85,451,912; B.M.J. ii./85,627.

Sea sickness effectually checked by two lozenges each containing $\frac{1}{12}$ grain of hydrochlorate of cocaine taken when first threatened and two more in twenty minutes. One-grain doses in solution also effectual.—P.J. 1886,712; B.M.J. ii./87,1236.

Thimble-shaped pessaries, composed of cocaine and oil of theobroma, relieved the pains of the first stage of labour, when inserted into the dilated os uteri.—B.M.J. ii./85,1140,1159.

Vaginismus, ointment and pessaries of cocaine useful.—B.M.J. ii./88,720,817. Relief temporary only; B.M.J. ii./88,790.

Morphine habit of three years' standing, 8½ grains taken during three days was successful in curing.—B.M.J. ii./85, 1112. Counteracting effects unsatisfactory.—L. i./89,287.

Poisonous effects attributed to use in fourteen eye cases and three hypodermic injections.—B.M.J. ii./85 983.

Cases of fainting when solution of cocaine salt was applied to the eye.—B.M.J. ii./85,1060.; i./86,67. Also after hypodermic injection.—Pr. xxxiv.450.

In eye operations, the diminished elasticity produced by cocaine may cause inconvenience.—L. ii./85, 1158.

Dangers from use of cocaine in eye cases supposed to be due to decomposition accompanying fungoid growth. Graefe recommends the cocaine salt to be dissolved in solution of mercuric chloride 1 in 20,000.—L. ii./85, 863,996,1070,1119,1167; B.M.J. ii./85,971,1184.

Fungoid growths in aqueous solutions of salts of cocaine and other alkaloids. — L. i./85,224,315,504, 597,647.

No harm known to follow a 4 per cent. solution for eye purposes.—B.M.J. ii./86, 451.

Perchloride of mercury added to solutions of cocaine salts causes irritation of eyes.—B.M.J. ii./86,259.

Cocaine craving, 5 to 7 drachms per day of 4 per cent. solution caused a state of system allied to delirium tremens.—L. ii./85,732.

Facial neuralgia relieved by quarter of a grain of salicylate of cocaine.—L. ii./85,733.

Asthma much relieved by hypodermic injections of 6 grains of the salicylate.—B.M.J. ii./86,117.

Earache, a 2 per cent. solution of the hydrochlorate on wool is useful.—B.M.J. i./86,87.

Larynx painted with 20 per cent. solution, a state of spasm was caused which required chloroform to subdue it.—L. ii./85,946.

Whooping-cough, 15 to 20 per cent. solution a valuable pigment to the larnyx.—B.M.J. ii./85,981,992. Also in spray with glycerine.—L. ii./89,1098.

Thigh successfully amputated under the influence of Cocaine, 1 per cent. solution injected into the skin and a half per cent. solution into the deeper parts; only during the sawing of the bone did the man complain of pain.—L. i/86,561, *ex* Med. Jour. N.Y. Feb. 20th.

Angina pectoris, ½ grain three times a day.—L. ii./86 459.

Morphine and nitrite of amyl are the best antidotes. —B.M.J. i./88,757.

Vomiting of pregnancy relieved by internal use.—L.ii/87,754, and for sore nipples, 1061; B.M.J. ii/87,94.

Camphor 5, chloral 5, cocaine hydrochlorate 1, warmed, form an oily liquid which cures toothache.—L. ii./86,324.

Slight pains, especially spasmodic, relieved by injection of a 20 per cent. solution into urethra.—L.i./88,871.

Painless tooth extraction if a 15 per cent. solution be injected into the gum.—B.M.J. ii./86,601.

In dentistry is of doubtful advantage, there is some danger, the gums do not absorb it.—L. ii./86,1190.

Two cases of poisonous symptoms following the injection of 1 grain in 20 minims into gums, in tooth extraction.—L. i./88,872. Another case.—Pr. xli.288.

Lithotrity rendered painless by the injection of 16 grains dissolved in 13 ounces of warm water into the bladder.—B.M.J.i./88,972.

Several cases of dangerous symptoms following its use in surgery.—L. i./87,780; St. Thomas Hosp. Rep. vol. xv.

Thirty cases of danger narrated, chiefly following its hypodermic use.—Th. Gaz. Jan. 1888,16.

Cases of toxic action; from urethral injection of 12 grains,—Pr. xli.369; from vesical injection,—B.M.J. i./89,373; from rectal injection,—L. ii./89,656; from hypodermic injections,—B.M.J. i./89,382; L. ii./88, 715; i./89,274; from internal use, 20 grains accidentally swallowed,—L. i./89,292; 4 grains in child of 4 years,—Th. Gaz. Jan. 1889,26; other cases,—B.M.J. i./89,382; Th. Gaz. June 1888,373.

Résumé of poisoning cases; more than $\frac{3}{4}$ grain should not be injected at once. Opium and morphine useless as antidotes; chloroform or ether inhalation recommended to prevent respiratory tetanus.—B.M.J. i./89. 311. Toxic effects counteracted by ammonia.—L. i./88, 394; ii./88,715; ii./89,1126.

Erosis after hypodermic injection.—Pr.xliii,449.

Against indiscriminate use, and formation of cocaine habit.—B.M.J. i./89,973.*

Best antidote is amyl nitrite.—B.M.J.i. 88,757.

Pleurisy relieved by local hypodermic injection of $\frac{1}{5}$ to $\frac{1}{4}$ grain.—B.M.J. ii./88,76.

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* Cases of danger from cocaine have generally occurred from its quick absorption in hypodermic use, especially in dental operations. Those who have applied it otherwise most freely recognise little danger. In our large experience of the drug, we have not met with a case in which the so-called "Cocaine habit" has been formed.

In diabetes, after codeine treatment, cocaine, ¼ grain doses given; overcame obstinate constipation, and ataxic gait disappeared.—L. ii./89,735.

Pruritus, several cases relieved by cocaine 2 per cent. in oil of theobroma.—B.M.J. ii./89,194.

CODEINA.

Codeine.

Dose.—¼ to 2 grains.

An alkaloid from opium, generally in large prisms slightly brownish in colour. Soluble 1 in 80 to 100 of water, very soluble in diluted acids, in alcohol, and in excess of aqueous ammonia, but insoluble in excess of potash solution. It is a methylic ether of morphine,—monomethyl-morphine,—and is now synthetically prepared from it by the action of chloride of methyl and alcoholic caustic soda solution. It has a slightly bitterish taste. In moderate doses is a hypnotic, and in small doses frequently it allays cough in phthisis. In diabetes it lessens the amount of sugar in the urine. For **hypodermic injection Phosphate of Codeine,** which contains 70 per cent. of alkaloid, and is soluble in 4 parts of water, is the most suitable salt (1 grain in 6 minims is used).

Hypodermic Lamels are also prepared, containing ¼ grain Codeine combined with gelatine.

Codeine and Glycerine Jelly (S. Hardwick).

Dose.—1 drachm.

Codeine	72 grains.
Citric Acid	720 grains.
Refined Gelatine	6 ounces.
Glycerine	36 ounces.
Oil of Lemon	1 drachm.
Balsam of Tolu and Distilled Water, of each	*q.s.*

Boil the Tolu in water as ordered in B.P. for making syrup of tolu; of the liquor so prepared take 30 ounces; in 25 ounces of it soak the gelatine, heat till it is dissolved, and add the glycerine. In the remaining 5 ounces of liquor dissolve the Codeine and citric acid, add the solution to the above, add also the oil of lemon, stir well together, and pour into bottles to "set." Useful in chronic laryngitis, phthisical cough, &c. – B.M.J. i./84,761.

Pastillus Codeinæ, ⅛ grain in each.

Pilula Codeinæ Composita.

Codeine	$\frac{1}{4}$ grain
(increased to 2 grains if necessary).	
Extract of Nux-vomica ...	$\frac{1}{2}$ grain.
Extract of Lettuce ...	$\frac{1}{4}$ grain or more.

Make one pill, to be taken two or three times a day, for diabetes.

Syrupus Codeinæ, B.P.C.

Dose.—$\frac{1}{2}$ to 2 drachms.

Codeine, in powder ...	20 grains.
Proof Spirit	$1\frac{1}{4}$ ounces.
Distilled Water ...	$1\frac{1}{4}$ ounces.

Dissolve, and add

Syrup	*q.s.* to 1 pint.

Trochisci Codeinæ contain $\frac{1}{8}$ grain in each.

References.

Sleep produced by it is not followed by the heaviness of that from morphine.—L. i./66,250.

Syrup useful in troublesome cough, especially phthisical.—B.M.J.i./79,546; Pr.xxiv.447; B.M.J.ii/88,1245.

In diabetes, doses of $\frac{1}{4}$ to $\frac{1}{2}$ a grain three times a day at first, the dose being increased gradually until sugar disappeared from the urine, or increasing drowsiness demanded its discontinuance.—B.M.J. ii./81,474.

In diabetes considered to be of greater service than the other constituents of opium, as it does not produce the same narcotic effect as opium and morphine.—Guy's Hosp. Rep. xv.420; B.M.J. ii./88,1245.

Diabetes mellitus, 3 cases recorded with marked improvement. Codeine should be given at once, and in fairly large doses, until some physiological effect is produced. Even dieting appears to sink in significance by the side of Codeine.—B.M.J. i./82,933.

In bladder troubles, complicated with enlarged prostate, Codeine is a useful sedative when other opiates fail.—B.M.J. i./84,802.

Of special use in abdominal pains, threatened abortion, and asthma.—B.M.J. i./88,1213,1382; L. ii./89,922.

Diabetes, results compared to those of morphine. Pr. xli.,16; xlii.,374; B.M.J. i./89,118; Th. Gaz. Sept. 1888,618; Y.B.1890,307.

Eight grains taken, recovery after vomiting.—B.M.J. ii./89,718.

Ovarian pains relieved and cured by codeine in small doses.—Pr. xliv.63.

COLCHICIN.

Dose.—$\frac{1}{32}$ to $\frac{1}{16}$ grain in a pill.

The active principle of the meadow saffron, *Colchicum autumnale*. A yellowish micro-crystalline powder, does not combine with acids except tannic acid, is soluble in alcohol and chloroform, less so in ether and water. Of use in acute gout, rheumatic gout, asthma, cerebral congestion, and uræmia.

In chronic rheumatism, apply hypodermic injections of $\frac{1}{32}$ grain in 15 minims of water.—M.T.G. 1/77,463.

In neuralgic joint affections, and rheumatic ischiagra, $\frac{1}{32}$ gr. hypodermically injected succeeded.—Pr. xxiii.458.

Toxicological action—it affects the gastro-intestinal mucous membrane, causing severe pains in the bowels, of the nature of colic, vomiting, diarrhœa, intense thirst, and violent burning in the throat, œsophagus, and stomach.—B.M.J. ii./79,1024.

Preparation and chemical properties.—P.J. 1881,498.

Report on its action as a diuretic, and purgative in larger doses.—B.M.J. i./87,688 ; L. i./86,369.

COLLODIUM.

Collodion (*Off.*). *Syn.*—CONTRACTILE COLLODION.

Pyroxylin 1 Rectified Spirit 12, and Ether (Sp. Gr. 0·735) 36. Pure ether answers better.

Anodyne Colloid. *Syn.*—AMYL COLLOID.

Hydride of Amyl[*]	1 ounce.
Aconitine	1 grain.
Veratrine	6 grains.
Collodion to	2 ounces.

For neuralgia, sciatica, lumbago, all muscular pains, &c. The amyl by its rapid volatilization often produces almost instantaneously the desired result; but should the pain continue the alkaloids can be brought into activity by applying a piece of moist spongio-piline over the collodion film.—B.M.J. ii./72,677.

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[*] *Syn.*—Pentyl Hydride; Pentylene; Hydramyl. Obtained by the fractional distillation of petroleum spirit. It is the lightest liquid of the petroleum series; Sp. Gr. 0·625 to 0·649, boiling point about 86° F. It is very inflammable; can be inhaled without irritation, and will produce general anæsthesia; locally, it is not absorbed, but rapidly freezes the part. An impure variety is known as Rhigolene in America. —L. i./85, 75,101 ; M.T.G. ii./71,373,492.

Celloidin is pyroxylin purified by solution in alcohol and ether; is used similarly to pyroxylin, and makes a clearer solution; especially adapted for embedding microscopical specimens. **Photoxylin,** a nitro-cellulose prepared by nitrating wood wool, is soluble in a mixture of equal parts of alcohol and ether. A 3 to 5 per cent. solution is said to leave a very tough film. Used to form artificial tympana.

Collodium Cocainæ.—See p. 133.

Collodium cum Oleo Crotonis.

Croton oil 1 part mixed with 7 parts, more or less as required, of Flexible Collodion, forms a useful counter-irritant; a thin layer painted on quickly dries, and its action is limited to the spot to which it is applied.

Collodium Flexile (*Off.*).

Contractile Collodion 1 ounce, Canada Balsam 20 grains, Castor Oil 10 minims; makes a more elastic film than Contractile Collodion.

Collodium Ichthyol. See p. 218.

Collodium Iodi.

30 grains of Iodine, more or less if required, to the ounce of Flexible Collodion, forms a coating which, on account of the iodine not being so readily volatilized as from an application of the liniment, sustains the action of the iodine and the film protects the part.

Collodium cum Iodoformo.—See Iodoform, p. 222.

Collodium Salicylicum.

Salicylic Acid	100 grains.
Flexible Collodion, $\frac{3}{4}$ strength	1 ounce.

For use on exposed parts like the next preparation.

Collodium Callosum.

Salicylic Acid	60 grains.
Extract of Indian Hemp ...	8 grains.
Flexible Collodion, $\frac{3}{4}$ strength	1 ounce.

Dissolve. Applied daily, this forms a rapid and painless solvent for corns and warts.—L.ii./83,951: B.M.J. ii./83,1071.

The following more active preparation is similarly used; both preparations have proved useful in epithelioma.

Collodium Salicylicum cum Zinci Chlorido.

Salicylic Acid	60 grains.
Chloride of Zinc	30 grains.
Collodion	1 ounce.

Dissolve, forms a clear solution. 1 of Chloride of Zinc forms an imperfect solution in 6 of Collodion (with some chemical change probably).

Perchloride of Mercury to the extent of 16 grains or more to the ounce of Salicylic Collodion may be used to warts of a specific nature.

Collodium Salicylicum et Lacticum.

Salicylic and Lactic Acids, of each 10, Collodion 80. Lactic Acid, being destructive to morbid growths, is said to increase the efficacy of this preparation.

Collodium Stypticum. *Syn.*—**Styptic Colloid.**

Tannic Acid (soluble) ...	10 parts.
Rectified Spirit	10 fluid parts.
Benzoin	1 part.

Dissolve, strain, and add

Ether, Sp. Gr. 0·720 ...	40 fluid parts.
Gun Cotton	2 parts.

Mix, set aside two or three days, and decant.

Forms a useful application in checking various forms of hæmorrhage when it can be brought in contact with the bleeding surface.

Collodium Vesicans.—See Cantharis, p. 95.

CONINA.

Conine. *Syn.*—CICUTINE; CONICINE.

Dose.—$\frac{1}{4}$ grain, increased gradually to 2 grains.

A liquid alkaloidal principle, almost colourless, and having a penetrating empyreumatic odour, obtained from hemlock, *Conium maculatum*. It is slightly soluble in water. Has been prepared synthetically from *α*-Picoline. Commercial Conine has in combination two other principles, Conhydrine and Methyl Conine, which the following salt is free from.

Coninæ Hydrobromas.

Dose.—$\frac{1}{3}$ grain, increased gradually to 2 grains.

In colourless crystalline prisms, resembling sulphate of magnesium in appearance. Soluble 1 in 8 of water.

Injectio Coninæ Hydrobromatis Hypodermica.

Hydrobromate of Conine ...	1 grain.
Distilled Water	20 minims.

Dose.—1 to 3 minims.

Pessus Coninæ (Hosp. for Women).

Conine	½ minim.
Gelatine Mass	20 grains.

Make one pessary.

Pilula Coninæ Hydrobromatis.

Hydrobromate of Conine ⅓ grain in each.

Vapor Coninæ (*Off.*).

Juice of Hemlock	½ ounce.
Solution of Potash	1 drachm.
Distilled Water	1 ounce.

Put 20 minims on the sponge of a suitable apparatus to inhale.

References.

Conine is most suitable in acute mania without organic brain disease, ½ minim of Conine given hypodermically is equal to one drachm Succus Conii.—Rank. ii./72,119, *ex* West Riding Lunatic Asylum Med. Rep. vol. ii.

Hydrobromate of Conine is useful in neuroses and spasmodic affections of chronic bronchitis.—Pr.xxiii. 202,212. Traumatic tetanus cured.—Th. Gaz. 1888, May, 330.

In epilepsy, dose of ¼ to 1½ grains recommended.—L. ii./84,32; Pr. xxxii.431.

Physiological action of the colourless Hydrobromate is like that of curare, but it does not act at all on the central nervous system like commercial liquid Conine; the latter contains two alkaloids.—L. ii./80,778.

Large doses, 2 to 4 drachms, of Succus Conii useful in chorea.—L. i./83,905.

Hydrobromate of Conine acts chiefly as a direct sedative to the respiratory centre; in poisonous doses death is caused by asphyxia. It is employed with advantage in all spasmodic affections, especially those of the respiratory organs; and in neuralgia commence with 1½ grains but not exceed 4½ grains per 24 hours.—Pr. xxviii.136.

For pruritus ani, an ounce of lanolin with 2 ounces of succus reduced to 2 drachms gives relief. In painful fissures, 10 or 12 grains persulphate of iron may be added.—Pr.xl.250; Th. Gaz., 1888, June, 395.

CONVALLARIA MAJALIS.

Lily of the Valley.

The flowers, as well as the whole plant of this, form an old remedy for dropsy in Russia. In functional and organic disease of the heart, an infusion of 10 grains in 6 ounces of water, of which half an ounce twice a day for two or three days lessens the irritability and peevishness. The effect will continue for from 5 to 9 days without producing dyspnœa or palpitation. Under this treatment the patient can take bodily exercise without discomfort.—Edin. Med. Jour. xxvii.645; P.J. 1883,1058.

Two glucosides have been obtained from the plant: convallarin, convallamarin, and a principle found in the flowers only.

Convallarin, a pale brownish white powder, soluble in alcohol, but insoluble in water; in dose of 3 or 4 grains, only has a purgative effect.

Convallamarin. *Dose.*—½ to 2 grains.

A pale, whitish brown amorphous powder, soluble in water and alcohol; is said to contain the active properties of the drug. It acts principally on the heart. Physiologically its action approaches that of digitalin, helleborin, &c. Death is produced by stoppage of the heart, and nearly always accompanied by intense clonic convulsions.—P.J. 1882,423.

Convallamarin is the more active preparation; only one dose should be given daily, on account of its cumulative action; it probably acts directly on the muscular tissues of the heart, more slowly than digitalis, but is more persistent in its influence; is contra-indicated in advanced heart disease where the muscular structure is altered.—L. ii./84,418.

Extractum Convallariæ. *Dose.*—2 to 8 grains.

An aqueous extract of flowers and stems, with one-third of roots and leaves, is said to be most active.—P.J. 1883,143.

Extractum Convallariæ Fluidum.

Dose.—2 to 10 minims; 1 = 1 of flowers.

Tinctura Convallariæ, B.P.C.

Dose.—5 to 20 minims; 1 of flowers in 8 of proof spirit.

Convallaria is a powerful diuretic, irregularity of heart's action is lessened, used in mitral and aortic regurgitation, dilatation of the heart, senile hypertrophy, chronic pericarditis, anæmia, and diabetes.—L. ii./82,327.

In all forms of heart failure it is useful, and has none of the nauseating effects of digitalis. It promotes a stronger ventricular contraction, and does not exhaust the contractility of the heart and arteries.—L. i./83, 185.

Editorial Notes on.—It exerts no deleterious effects, takes the place of digitalis in organic heart disease, relieves promptly without danger of overdose or cumulative action.—B.M.J. i./83,568.

Action of convallaria not identical with that of digitalis; a small dose should be commenced with. —L. ii./83,24.

In a case of mitral obstructive disease, Liq. Ext. m.x. 4tis horis, et P. Jalap. Co. 60 grains, o.n., improved action of heart, increased the urine, and œdema of legs and ascites disappeared.—Pr. xxxii.265.

COTO CORTEX.

Coto Bark.

Dose, in powder, 1 to 8 grains 4 to 6 times a day.

Coto Bark, imported from Bolivia, has been used for diarrhœa, gout, and rheumatism. It is rich in resinous principles, which give it a pungent taste.

Extractum Coto Liquidum.

One ounce = one of bark.—*Dose*.—2 to 6 minims.

Tinctura Coto, B.P.C.

Coto Bark, bruised	1 ounce.
Rectified Spirit	*q.s.*

Macerate 7 days, press, filter, and add rectified spirit *q.s.* to produce 10 ounces.

Dose.—10 minims, with mucilage and syrup to suspend, every 2 hours, in diarrhœa.—P.J. 1875,301.

Cotoin. Obtained from Coto Bark.

Dose.—½ to 2 grains every 2 or 3 hours, in a pill or diluted mucilage or syrup, for stomachic catarrh and phthisical diarrhœa, causes a reduction of the febrile symptoms and night sweats.

Cotoin is a pale yellow amorphous powder, or in minute curved crystalline prisms, non-volatile, slightly soluble in water, soluble in alcohol, ether, and chloroform, caustic and carbonated alkalies. It has a bitter taste, and the dust is irritating to the nostrils.

For hypodermic injection a solution 1 in 4 of acetic ether is recommended as having a specific action on the bowels in cholera, 15-minim doses to be given every quarter of an hour to every hour.—P.J. 1883,62.

Paracotoin. Obtained from Paracoto Bark, a bark allied to Coto Bark.

Dose.—1½ to 3 grains every 2 or 3 hours in chronic and acute stomachic catarrh and Asiatic cholera.

Paracotoin is in minute laminar crystals, paler than cotoin. Soluble in ether, chloroform, boiling alcohol, and somewhat in boiling water, but from this it separates on cooling. It appears to be a weaker Cotoin.

Elixir of Coto, very beneficial in cases of infantile diarrhœa—6 to 12 drops every 3 hours.—Pr. xxii.61.

In diarrhœa of phthisis, 5 to 8 minims of fluid extract of Coto found useful. Must not be combined with mistura cretæ.—Pr. xxiii.257.

Checks night sweats in incipient phthisis.—L ii./81, 318; B.M.J. ii./81,727.

No drug equal to Cotoin in the treatment of diarrhœa of all kinds, especially that of phthisis; it checks salivation and night sweats.—M.R. 1883,16.

COUMARINUM.

Coumarin.

Dose—?

A neutral crystalline principle in colourless rectangular plates, may be obtained from Tonka or Tonquin beans, the fruit of *Coumaruma odorata*, is also found in the woodruff *Asperula odorata*, *Melilotus officinalis*, *Anthoxanthum odoratum*, &c., but it is now manufactured synthetically from Salicylol, or Salicylic Aldehyde. It is almost insoluble in cold water, but readily soluble in hot, dilute acids, and alcohol, has an agreeable aromatic odour, a burning taste, sublimes unchanged, and the vapour acts very strongly on the brain. 1 part to 50 of iodoform has been employed to disguise the odour of the latter.—See Iodoform, p. 221.

CREASOTUM (*Off.*).

Creasote. *Syn.*—KREOSOTE, CREOSOTE.

Dose.—1 to 3 minims.

Obtained from wood tar, soluble in alcohol, ether, glacial acetic acid, fats and oils, insoluble in glycerine, sparingly soluble in water—about 1 in 1,000. Two kinds of genuine Creasote are met with in commerce—Hydrated Creasote, which keeps stable and almost colourless, but makes a cloudy mixture with oil of turpentine, and—Anhydrous Creasote, which, although liable to turn brown, mixes perfectly with oil of turpentine. As Creasote coagulates albumen in solution, it acts locally as a caustic. It is one of the most powerful deodorisers, antiputrescents, and antiseptics. It is used to correct fœtor, given to check sickness, added to cod-liver oil for phthisis, and externally in various skin diseases.

For irritable trachea and congested larynx, causing troublesome cough, the dry inhalation of creasote on an oro-nasal inhaler is very useful.

Mistura Creasoti (*Off.*).

Dose.—1 to 2 ounces.

Contains 1 minim of Creasote in an ounce. It is not a satisfactory preparation, as the Creasote does not dissolve perfectly.

Pilula Creasoti (Martindale).

Creasote	2 drachms.
Curd Soap, in powder ...	120 grains.

Put the Creasote in a 1-ounce wide mouth stoppered bottle, add the soap, and mix well. Then digest in a water bath till they combine. Each 2 grains of the mass will contain, as nearly as possible, 1 minim of Creasote.—(P.J. 1878,681.)

Dose.—2 to 6 grains.

The writer has found this mass the most convenient for giving Creasote in pills. It combines with other ingredients without decomposition. Calcined magnesia and slaked lime, sometimes recommended as excipients, form compounds with Creasote perfectly insoluble and indigestible. Care should be taken not to mix oxide of silver directly with pure Creasote, else deflagration will occur; but oxide of silver may be mixed with the above mass, although it is not advisable to prescribe the two drugs together in a pill.

Pulvis Creasoti et Amyli.

Creasote	10 minims.
Starch, in powder... ...	1 ounce.

Mix well. It is used as a dusting powder in erysipelas.

Unguentum Creasoti (*Off.*).

Creasote 1 drachm, mixed with 1 ounce of simple ointment.

Unguentum Creasoti Forte, B.S.H.

Creasote	6 drachms.
Yellow Wax	180 grains.

Melt, and stir till cold. Used in psoriasis. Caution.—Should not be applied to the belly, face, or flexor surfaces of the limbs.

Vapor Creasoti, T.H.

Creasote...	80 minims.
Light Carbonate of Magnesium	30 grains.
Water to	1 ounce.

A teaspoonful in a pint of water at 140° F. Useful in chronic congestion of the larynx and trachea, and in ozæna, fœtor of breath in bronchitis, gangrenous lung, and syphilitic throats.—B.M.J. ii./88,700.

Creasote lessens cough and expectoration in phthisis. 1 in 40 of rectified spirit, of this a teaspoonful twice a day; also in 1 or 2 minim doses in solution in cod liver oil or in troches with balsam of tolu.—Pr. xxii.380; Pr. xxvi.296; L. i./88,187; B.M.J. i./88,548.

Saturation of system with creasote in tuberculosis recommended as result of 5,000 cases.—L. ii./89,336.

Useful in pills for diabetes.—L. i./89,702.

Of service in flatulent dyspepsia, $\frac{1}{2}$ minim with sodium bicarbonate after meals. If due to gastric atony, bismuth carbonate and pepsin, of each 2 grains, may be added.—Th.Gaz. July, 1889,504.

Oro-nasal Inhalations.—Creasote, or a mixture of equal parts of Creasote and Carbolic Acid, is employed to medicate respirators.

Used for antiseptic inhalation for phthisis dropped on respirator.—L. ii./77,598.

Creasote 3 parts with carbolic acid one part dropped on the cotton wool of the naso-oral respirator recommended for continuous local medication in phthisis. —L. ii./80,870; Pr. xxix.94; B.M.J. ii./81,813.

Creasote used to medicate the respirator. It is more sedative in its action if mixed with an equal volume of spirit of chloroform, 5 to 15 or 20 minims dropped on the cotton wool at one time.—B.M.J. ii./82,7.

Creolin, a nostrum sold as *Liquor Antisepticus*, is a dark alkaline liquid prepared from coal tar, forming a white emulsion with water, and is recommended as a deodorising antiseptic. For lotions, 1 to 100 to 500 of water.—L. i./88,540.

Dose.—1 to 5 grains.

A useful antiseptic, as emulsion or gauze.—B.M.J. ii./88,1061.

Injections successful in dysentery and gonorrhœa.—L. ii./88,341; ii./89,232; Th.Gaz. July, 1889, 495; Sept. 1889,647.

Use in ophthalmia and inflammation of the middle ear.—L. ii./88,341; i./89,702; Th.Gaz. Dec. 1888, 814.

An unreliable disinfectant, weak antiseptic, and more poisonous than supposed.—B.M.J. i./89,260; Th.Gaz. Nov. 1888,768. Toxic effects.—L. ii./89,811; Th.Gaz. Aug. 1889,550; Y.B. 1890,302.

Poisoning by 9 ounces swallowed; recovery.—B.M.J. i./90,92.

Guaiacol. *Dose.*—½ to 2 minims. May be obtained by the destructive distillation of guaiacum resin, and is contained in beech creasote to the extent of 60 to 90 per cent. It is a methyl ether of pyrocatechin, and, when pure, is a colourless refractive liquid of Sp. Gr. 1·1171, boiling at 200° C. It is soluble in alcohol, ether, fats, oils, and glycerine, but only slightly soluble in water. Its taste and odour resemble, but are more agreeable than, those of creasote. Its alcoholic solution gives an emerald green coloration with perchloride of iron. It is useful in phthisis, particularly in incipient stages, and rarely disagrees. It may be given thus: Guaiacol, 1 part: Water, 180 parts; Rectified Spirit, 20 parts. *Dose.*—1 to 4 drachms in water twice or thrice daily, after meals. It may also be given in cod liver oil, which disguises the taste, or the following:—Guaiacol, 13·5; Tincture of Gentian, 30; Rectified Spirit, 250; and Sherry, to 1,000; two teaspoonfuls two or three times a day in water.

Perles of Guaiacol contain one minim, dissolved in oil.

CUCUMIS.

Cucumber.—The juice of the fruit of *Cucumis sativus*, is in French Codex to prepare:—

Unguentum Cucumeris.

Syn.—POMATUM CUM SUCCO CUCUMERIS SATIVI; Fr. POMMADE AUX CONCOMBRES.

Cucumber Juice	1200
Lard	1000
Veal Suet	600
Balsam of Tolu in S.V.R. *q.s.* ...	2
Rose Water	10

F.s.a. Is a cooling ointment, used like cold cream.

CURARA.

Curare. *Syn.* — OURARI, URARI, WOURARA, WOURALI. *Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain.

The South American Indian arrow-poison, produced from species of *Strychnos* and other plants. A blackish-brown coloured, dry extract, with a bitter taste; contains some resin, but is nearly all soluble in water.

Curarina, Curarine. *Dose*—?

This, the active principle of Curare, is a most powerful poison, in yellowish-brown amorphous hygroscopic powder, with an intensely bitter taste, soluble in water and alcohol, the latter solution being slightly fluorescent. Is not alkaline in reaction, and forms no true salts. In toxicological research, Curarine, like strychnine, with sulphuric acid and bichromate of potassium, is coloured first blue, then violet, and later on cherry-red, but the transition is slower than with strychnine; sulphuric acid alone imparts a red colour to solutions containing Curarine, it has no effect on strychnine. The physiological test for Curarine is more valuable.—B.M.J. ii./79,1025.

It is said to exercise no marked physiological action if swallowed, but acts as a muscular paralyser if injected subcutaneously.

Injectio Curare Hypodermica, B.P.C.

Curare, in powder, 5 grains; Distilled Water, a sufficient quantity. Add to the Curare distilled water *q.s.* to form a thin paste, transfer to a funnel plugged with absorbent wool, and gradually add more water until one drachm is obtained.

If required in haste, to the five grains of Curare reduced to powder add one drachm of distilled water, throw on a filter, and when the liquor ceases to drop pour over the contents of the filter distilled water sufficient to produce one drachm.

Dose.—1 to 6 minims.

Hypodermic Lamels are also prepared, containing $\frac{1}{400}$ grain Curarine in each combined with Gelatine; also with $\frac{1}{20}$ grain of Curare.

Used to paralyse muscular movements in experiments on biliary secretions of dog, in dose of from 0·02 to 0·06 gramme of Curare.—Pr.xxiii.327.

In hydrophobia, a case cured by $\frac{1}{3}$ to $\frac{1}{2}$ grain, hypodermically, repeated about every half-hour, as required, to allay the spasms, until these ceased entirely, and paralysis of all voluntary movements became apparent.—M.T.G. ii./77,396.

Its botanical sources and varieties.—P.J. 1880-81,491, 529,589,693,754.

Its use as a palliative in hydrophobia.—L. ii./81,624.

Cases of tetanus treated by hypodermic injections of Curare. To adults, 4 grains may be exhibited at intervals in the 24 hours, without danger to life.—Dub. Jour. Med. Sci. 1882,307.

CYPRIPEDIN.

Dose.—1 to 3 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Cypripedium pubescens*, Ladies' Slipper. It has a snuff-brown colour, and is given in nervous affections, hysteria, hypochondriasis, and is said to be useful in epilepsy.

DAMIANA.

The leaves of some species of *Turnera* are imported, and are recommended in the United States as possessing aphrodisiac properties.

Extractum Damianæ Liquidum is prepared, of which two drachms represent a drachm of the leaves. *Dose.*—1 to 2 drachms.

It is a nerve tonic of great value in sexual debility; useful also in hemiplegia and paraplegia.—Pr. xxiv.58.

Botanical source and history.—P.J. 1875,423,493,581.

For cases of melancholia this drug is found to be of service.—L. ii./87,604.

DATURINA.

Daturine.

Dose.—$\frac{1}{120}$ to $\frac{1}{60}$ grain increased to $\frac{1}{10}$ or more, in solution with diluted sulphuric acid.

An alkaloid obtained from *Datura Stramonium.* In crystals resembling atropine, but lighter and more feathery in appearance. That generally met with is the "light Daturine" of Ladenburg, and, according to him, it consists principally of pure hyoscyamine.—See Atropine, p. 65. It has allied chemical and physiological properties to atropine and hyoscyamine, and is used for ophthalmic purposes to dilate the pupil, &c. The salt **Daturinæ Sulphas** is generally employed. It is in minute, white, granular crystals, readily soluble in water.

Guttæ Daturinæ, R.O.H.

Sulphate of Daturine ...	2 grains.
Distilled Water	1 ounce.

Ophthalmic Discs, containing $\frac{1}{5000}$ grain of Sulphate of Daturine in each, combined with Gelatine, are prepared.

Given to a patient suffering from acute mania, it acted like hyoscyamine and atropine in producing sleep.—R. and Pr. xviii.166.

DELPHINA.

Syn.—DELPHIA, DELPHINE.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ grain in a pill, with glycerine of tragacanth, every 3 or 4 hours.

A white or brownish white amorphous alkaloid obtained from seeds of stavesacre, *Delphinium Staphisagria,* and of larkspur, *Delphinium consolida.* Almost insoluble in water, soluble in alcohol, ether, and dilute acids. It is a heart poison.

Has been given internally in doses as above, in dropsy and spasmodic asthma. Locally 10 to 30 grains to an ounce of rectified spirit, or an ointment containing the same quantity causes tingling and transient redness like veratrine; useful in neuralgia, earache, and toothache.—Stillé and Maisch.

Oleum Staphisagriæ.—The expressed oil of the seeds.

One to 6 or 12 parts of perfumed olive or almond oil effectually kills pediculi of all kinds. Remove nits with a mixture of vinegar and proof spirit.—M.P.C. ii./85,551.

Unguentum Staphisagriæ (*Off.*). — Stavesacre Seeds 1, digested in Benzoated Lard 2, in a water bath for 2 hours, and strained through calico.

DIGITALINUM.

Digitalin. *Syn.*—DIGITALINE AMORPHE (Codex).

Dose.—$\frac{1}{60}$ to $\frac{1}{30}$ grain in a pill.

The Digitalin of Homolle is met with in commerce as an amorphous yellowish-white powder or small scales, inodorous but irritating to the nostrils, is intensely bitter and poisonous, and possesses the well-known properties of the foxglove, *Digitalis purpurea*, from which it is obtained. It consists of a mixture of Schmiedeberg's digitalin with some digitoxin. Is used to lessen fever and acute inflammations, also in heart disease with rapid weak pulse, and for cardiac dropsy, for internal hæmorrhages, delirium tremens, and spermatorrhœa.

Granules de Digitaline (Homolle).

Dose.—2 to 4 or 5 in 24 hours.

Are much used in France. Each granule contains a milligramme ($\frac{1}{65}$ grain) of Digitalin, equal to about $1\frac{1}{2}$ grains Digitalis leaves.

Crystallized Digitaline (Nativelle's), *Digitaline cristallisée* (Codex). *Dose.*—$\frac{1}{60}$ to $\frac{1}{30}$ grain in a pill.

Is in light, white crystalline tufts of needles, very bitter; insoluble in water and ether, soluble in chloroform and rectified spirit. It consists almost entirely of Schmiedeberg's digitoxin, and is cumulative in its action. Should not be dispensed unless *crystals* are ordered.

Digitalein (Schmiedeberg), an amorphous glucoside, soluble in water, possesses active properties like the above, and is suitable for making hypodermic injections; given in the same dose as Digitalin, and said to be non-cumulative. **Hypodermic Lamels** of this are prepared containing $\frac{1}{100}$ grain in each combined with gelatine.

Digitalin (Schmiedeberg), a crystalline glucoside, insoluble in water.

Digitoxin (Schmiedeberg). — This is the most poisonous of the digitalis principles, and is cumulative. It crystallizes from alcohol, is insoluble in water, and sparingly soluble in ether.

References to Digitalin.

Physiological and therapeutical experiments.—M.T.G. i./55,382.

Is 120 times as strong as Digitalis, given in delirium tremens in doses of $\frac{1}{60}$ to $\frac{1}{30}$ grain.—M.T.G. ii./61,106.

Case of poisoning by, with recovery.—L. i./80,166.

Use in heart disease.—B.M.J. ii./71,148.

Antagonism to aconitine.—B.M.J. Rep. 1877,89.

Hypodermic injection of 1 in 500 of equal parts alcohol and water, in dose of 8 minims, acts well.—B.M.J. i./78,535.

Physiological effects on blood vessels.—L. ii./81,886.

Is an irritant to the skin, mucous membranes, hypodermically, and even to the stomach; produces diuresis only in dropsies due to disorders of circulation. Small doses slow the pulse and increase cardiac energy.—L. ii./84,25.

Diuretin. (See p. 370).

DUBOISINÆ SULPHAS.

Sulphate of Duboisine.

Dose.—$\frac{1}{120}$ to $\frac{1}{30}$ grain.

Obtained from Pituri, the leaves of *Duboisia myoporoides*; is usually met with in amorphous whitish granules, very hygroscopic. Although first stated by Ladenburg (Berichte xiii.,257) to consist of hyoscyamine, a sample of commercial Duboisine last examined by him (Ber. xx. 1661), was found to be identical with hyoscine* (see pp. 65, 214) and isomeric with atropine and hyoscyamine. It is much more powerful physiologically than the latter.

Guttæ Duboisinæ Sulphatis, R.O.H.

Sulphate of Duboisine 1 grain to Distilled Water 1 oz.

Ophthalmic Discs are prepared containing $\frac{1}{3000}$ grain of Sulphate of Duboisine combined with Gelatine.

Physiological action. It dilates the pupil, dries the mouth, checks perspiration, causes headache and drowsiness, antagonises muscarine, on the eye it acts more promptly than atropine.—L. i./78,304.

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* Some manufacturers now say the former is correct and that duboisine, obtained as a brown thick liquid, forms a sulphate corresponding in all respects to hyoscyamine sulphate. They obtain hyoscine from the mother-liquor, not only of duboisine sulphate, but also of hyoscyamine sulphate, which they prepare from belladonna root.—P.J. 1890,709; C. & D. i./90,262. It is probable that hyoscine may prove to be, like atropine, another conversion product of hyoscyamine. —See p. 65.

Eight cases of toxic symptoms, giddiness, delirium, and dryness of the mouth from use of eyedrops 4 grains to the ounce.—L. ii./79,353.

As a mydriatic is much stronger than atropine. Its use requires care—it is apt to produce giddiness, &c., and even delirium.—L. ii./79,441.

Physiological properties and medicinal use as a mydriatic; a résumé.—B.M.J ii./79,362; Pr. xxiii.246.

Therapeutic and physiological effects—Differs from atropine by the persistence and greater rapidity of its action on the muscle of accommodation; is a useful calmative in maniacal delirium; as a sedative ointment, 1 in 500 of vaseline applied night and morning is useful in inflammation of the cornea.—Pr. xxv.294.

Résumé of its physiological properties.—L. ii./81,806; B.M.J. ii./81,529; Trans. Med. Congress, 1881,i.511.

In exophthalmic goitre, $\frac{1}{120}$ grain 2 or 3 times a day gives great relief.—B.M.J.i./83,958.

Delirium caused by instillation of $\frac{1}{100}$ grain solution into eye.—L. i./87,75.

ELATERIUM.

Elaterium (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ grain.

Is a powerful hydragogue cathartic, useful in renal or cardiac disease complicated with dropsy.

Tinctura Elaterii Composita.

Elaterium, in powder... ...	1 grain.
Compound Tincture of Chloroform	1 ounce.

Dose.—10 to 30 minims.

It is preferable to add the chloroform (which is a ready solvent of Elaterin) of the tincture first, macerate 2 days, then add the rectified spirit and compound tincture of cardamoms, macerate 5 days more and filter. Is more active than a corresponding dose of the powder.

Elaterinum, Elaterin (*Off.*).—*Syn.* MOMORDICIN.

Dose.—$\frac{1}{40}$ to $\frac{1}{10}$ grain.

The neutral active principle of Elaterium, is in colourless, hard, acicular crystals, insoluble in water, soluble in chloroform and hot alcohol.

Pulvis Elaterini Compositus (*Off.*).

Dose.—$\frac{1}{2}$ to 5 grains. Elaterin 1, Sugar of Milk 39.

ELIXIRS.

These are generally composed of a weak-flavoured syrup, with a fair proportion of alcohol, which latter may account for much of the esteem with which they are held.

Elixir Simplex, B.P.C.

Oil of Bitter Orange ...	30 minims.
Rectified Spirit	6 ounces.

Dissolve and add:—

Distilled Cinnamon Water...	7 ounces.
Syrup	7 ounces.

Mix. Filter through paper moistened with proof spirit, and well sprinkled with kaolin, returning the first portions of filtrate until it passes through bright.

Dose.—20 minims to 1 drachm. This quantity may be added to the ounce of any liquid medicine.

Elixir Bismuthi.

Citrate of Bismuth ...	160 grains.
Distilled Water	2 ounces.
Solution of Ammonia...	2 drachms, or more if needed to dissolve the bismuth.

Dissolve, filter, and add

Simple Elixir to ...	10 ounces.

Dose.—1 drachm = 2 grains citrate of bismuth.

Elixir Camphoræ.—See p. 90.

Elixir Camphoræ Monobromatæ.—See p. 91.

Elixir Cascara Sagrada.—See p. 337.

Elixir Cinchonæ.

Liquid Extract of Cinchona	1 ounce.
Simple Elixir	7 ounces.

Mix and filter.

Dose.—½ to 1 drachm.

Elixir Ferri, Quininæ et Strychninæ Phosphatum.—See p. 188.

Elixir Guaranæ.—See Guarana, p. 200.

Elixir Papain.—See p. 283.

Elixir Paraldehydi.—See p. 47.

Elixir Phosphori.—See Phosphorus, p. 294.

Elixir Rubrum.

Solution of Carmine (p. 98)	1 drachm.
Simple Elixir to	8 ounces.

Dose.—20 minims to 1 drachm.

Gives an agreeable flavour and colour to liquid medicines, but is not compatible with acids.

Elixir Saccharini. (See p. 341).

Elixir Sennæ, B.P.C.

Dose.—1 to 3 drachms.

Alexandrian Senna	16 ounces.
Refined Sugar	12 ounces.
Rectified Spirit	
Distilled Water...	of each *q.s.*

Moisten the senna with 4 ounces of spirit mixed with 12 ounces of water, pack tightly in a closed vessel, macerate for 3 days, and press. Repeat with sufficient menstruum to give, in all, 16 ounces of liquor. Add this to the sugar, and heat in a closed vessel to 200° F. After ten minutes, cool, strain, and add, previously mixed:—

Chloroform	24 minims.
Oil of Coriander	2½ minims.
Tincture of Capsicum	½ drachm.
Rectified Spirit	3 drachms.

adding proof spirit, if necessary, *q.s.* to 24 ounces.

In this preparation the **Cathartic Acid**, a glucoside contained in senna, being not subjected to long exposure to heat, is preserved from oxidation; if isolated, it is sometimes prescribed in doses of 4 to 8 grains in pills, but it is very unstable.

Elixir Acidum (Haller's Acid Elixir).

Syn.—Liquor Acidus Halleri (Danish P.).

Dose.—2 to 8 minims.

Strong Sulphuric Acid,
Rectified Spirit, of each equal weights.

Mix carefully and gradually.

Austrian P. has Liquor Acidus Halleri 1 to 3 of spirit (weight); German P., Mixtura Sulfurica Acida 1 to 3 (weight); Codex, Acide Sulfurique Alcoolisé 100 to 300, and red poppy petals 4 (weight); and T.H., Acidum Sulphuricum Alcoholisatum 15 to 105, and oil of sage 1 (measure). In all these much of the sulphuric acid is in the form of ethyl-sulphuric acid (sulphovinic acid), which is more agreeable in taste than diluted sulphuric acid. If mixed with sweetened water, they form agreeable cooling drinks, useful in checking excessive perspiration. Elixir of Vitriol, **Acidum Sulphuricum Aromaticum**, B.P. (sulphuric acid 1½ fluid parts, added to rectified spirit 18 parts; with spirit of cinnamon and essence of ginger of each 1 part), is a weak form of the old Mynsicht's Elixir Vitrioli—in this ethyl-sulphuric acid is formed on keeping, but not much while making. The preparation would be improved by carefully heating the mixture of acid and spirit to encourage the formation of the vinous acid.

EMBLICÆ FRUCTUS.

Emblic Myrabolan Fruit.

Dose.—One, two or more as required. The taste of the pulp is very agreeable.

The fruit preserved in syrup, or crystallised in sugar, of *Myrabolanus emblica, Emblica officinalis,* or Nilicamam (*Hindi*). Used in India to excite the appetite, and taken after meals for atonic dyspepsia. In the fresh state, the fruit consists of a fleshy, acidulous pulp enveloping an angular nut. The pulp is rather austere, and is possessed of purgative properties.

The fresh juice is cooling, diuretic, and laxative. The confection promotes the appetite, and acts as a tonic. —Dutt's Hindu Materia Medica.

Tried carefully in several cases of habitual constipation; is a valuable addition to our list of laxatives. It may be taken at dinner or dessert. It is most valuable for children.—B.M.J. ii./82,173.

Confectio Emblicæ.

The fruit, pulped and freed from nuts, &c.

Dose.—1 or 2 teaspoonfuls.

ERGOTA.

Ergot of Rye (*Off.*)—*Syn.*—SECALE CORNUTUM.

Dose.—10 to 30 grains in recent powder infused in boiling water.

Extractum Ergotæ Liquidum, *Off. Dose,* 10 to 60 minims, 1 = 1 of Ergot.

Infusum Ergotæ, *Off. Dose,* 1 to 2 ounces, 1 = 10.

Tinctura Ergotæ, *Off. Dose,* 15 to 60 minims, 1 = 4.

Acidum Scleroticum.—See p. 170.

Ergotinum, Ergotin, or Ergotine (*Off.*).

Syn.—BONJEAN'S ERGOTIN.

Dose.—1 to 3 or 5 grains, in a pill (with althæa) or hypodermic solution.

The purified aqueous extractive of ergot. As found in English commerce, it is a dark-brown extract, having the odour of roast beef,—sometimes desiccated, and in brittle lumps, very hygroscopic, and freely soluble in water. It is given to check all forms of passive hæmorrhage.

Injectio Ergotini Hypodermica (*Off.*)

Ergotin 1 grain, in camphor water 2 minims.

Dose.—3 to 10 minims.

The writer prepares it of the strength of 1 grain *in* 2 minims; *dose*—2 to 8 minims. Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution.

Hypodermic Lamels are also prepared containing ½ grain of Ergotin combined with gelatine.

Cases of aneurism—one subclavian and one radial cured by subcutaneous injection of Ergotin.—Pr. ii.310.

A dose given in the St. André Hospital, Bordeaux, after operations to lessen suppuration.—Pr. ii.61.

For hæmoptysis of tubercle, doses of 1 to 1½ grain, and in intestinal hæmorrhage of typhus.—M.T.G. ii./72,549.

Hæmorrhage, to check external or internal, especially in scrofulous persons.—M.T.G. i./74,537.

Epistaxis—hypodermic injection of, into the arm, of 3 grains in 10 minims of warm water, is found of the greatest success.—Br. i./75,308.

Epistaxis occurring in the course of a case of trichinosis, Ergotin used as a styptic, also suggested to be used as a killer of the trichinæ.—Pr. xxi.462.

Uterine fibroid, successful treatment of, by hypodermic injections deeply into the muscles of the buttock, of 2 to 5 grains of Ergotin, and 4 grain Ergotin suppositories; use of these continued 5 days previous to periods.—Pr. xxii.32.

Thèse, abstract of, on its hæmostatic action by hypodermic injection.—Pr. xxiv.130.

In erysipelas, 1 in 50 of water, locally applied, reduces the heat, pain, and swelling.—B.M.J. ii./81,935.

In prolapsus ani, 3 to 4 grains, injected into the sphincter or prolapsus every 2 or 3 days, cured in a few weeks.—Pr. xxvii.369.; Pr. xxx.453.

A dose of Ergotin, injected deeply into the gluteal muscles just before delivery, seldom fails to give perfect uterine contraction.—Br. i./81,lxviii.

Use in cerebral affections; Ergotin seems to have a powerful action over certain disturbances of speech in which patients utter words they do not intend to pronounce.—M.R. 1882, 496.

Ergotin causes spasm of arterioles and rise of blood pressure, by acting directly on the vessels independently of the central nervous system.—B.M.J. i./84,97.

Useful in polyuria.—B.M.J. ii./88,845 ; Pr. xli.452.

Hypodermic injection of ergotin immediately relieved strangury.—Th. Gaz. Sept. 89,647.

Neither ergot nor iron will induce abortion in pregnant women unless previously disposed (Lombe Atthill).—B.M.J. i./89,350.

Ergotinina, Ergotinine. *Dose.*—$\frac{1}{200}$ to $\frac{1}{40}$ grain.

An alkaloid in minute white crystals, insoluble in water, soluble in alcohol, ether, chloroform, and dilute acids; solutions in the latter readily decompose on exposure to the air, slight heat, or alkaline reagents ; sulphuric acid with a trace of ether turns it to a yellow red, then blue violet colour. **Hypodermic Injection,** Ergotinine, 1 grain lactic acid, 2 minims chloroform water to 1,000 minims, is quick in action in dose of 5 to 10 minims, repeated if needed to the extent of 20 minims. It is costly.—L. ii./82,945.

Ergotininæ Citras. *Dose.*—$\frac{1}{150}$ to $\frac{1}{30}$ grain.

A soluble salt of the above, in greyish powder, suitable for hypodermic injection.

Liquor Ergotæ Aceticus. *Dose.*—10 to 60 minims. An acid preparation, as U.S., 1860, but since discarded, is sometimes ordered. 1 = 1 of Ergot.—B.M.J. i./88,743,1148.

Liquor Ergotæ Ammoniatus.—1 = 1 of Ergot. *Dose.*—10 to 60 minims.

A preparation in which Ergot is exhausted by ammoniated proof spirit.

Pharmaceutically, it has been found that ammonia not only exhausts Ergot of its active medicinal properties, but also secures a uniform, stable preparation ; whilst, therapeutically, the combination of ammonia and Ergot is indicated in some forms of post-partum hæmorrhage, &c.

A remarkably active preparation of the drug.—L. i./76,93 ; B.M.J. i./76,89.

A more efficient and reliable preparation, as powerful in action, if not more so, than the fresh infusion prepared from recently powdered Ergot.—L. i./77,115.

Tinctura Ergotæ Ammoniata, B.P.C.—1 in 2 of Aromatic Spirit of Ammonia.—*Dose.*—10 to 60 minims.

Acidum Scleroticum, Sclerotic Acid.

Syn.—SCLEROTINIC ACID.

Dose.—$\frac{1}{2}$ to $\frac{3}{4}$ of a grain hypodermically.

This weak acid principle is, according to Dragendorff, the most active of a series of preparations he has obtained from Ergot. It is uncrystallizable, pale brown, darkening with age, is hygroscopic, and soluble in water.

Injectio Acidi Sclerotici Hypodermica.

One grain in distilled water to 6 minims.

Dose.—3 to 5 minims.

Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution, as it is prone to change.

Hypodermic Lamels contain $\frac{1}{16}$ grain Sclerotic Acid combined with gelatine.

As a hæmostatic Sclerotic Acid possesses all the virtues of Ergot. Injected hypodermically, it is preferred to Ergotin, as it causes no inflammation at the seat of puncture.

Accounts of its chemical preparation.—P.J. 1876, 1001; P.J. 1877,108.

Note on its physiological and therapeutic properties. It accelerates the intestinal peristalsis, and excites contraction both of the pregnant and non-pregnant uterus, pre-existing contractions being intensified. Not a powerful poison, 0·02 to 0·03 gramme being a dose by hypodermic injection.—M.T.G. ii./79,642.

ERYTHROPHLŒUM.

Casca Bark. *Syn.*—SASSY BARK; ORDEAL BARK.

The bark of *Erythrophlæum Guineense*, a leguminous tree, has an action resembling that of digitalin and picrotoxin combined. Its powder causes most violent sneezing, and it is a powerful poison. It contains an alkaloid—Erythrophlœine. P.J. 1876,77.

Erythrophlœinæ Hydrochloras.—*Dose.*—(?)

In yellowish white granular crystals, readily soluble in water. The solution has an acrid, bitter taste. Has the combined action of digitalin and picrotoxin—5 milligrammes ($\frac{1}{13}$ grain) produced cramps, and was fatal to cats and guinea pigs,—for dogs a somewhat larger dose was required.—Archiv für exp. Path. u. Pharm. 1882,483.

Said to possess local anæsthetic properties, which has not been confirmed.—L. i./88,249,346; B.M.J. i./88, 545,604,661,662; Th. Gaz. 1888, March, 145, April, 246; Birmingham Med. Rev. 1888, May, 233. Toxic effects may follow.—B.M.J. i/88,1083.

In mitral disease and cardiac dropsy depending on it, it is a more powerful remedy than digitalis, its effect on the arterioles is greater, and is useful in dilated heart. — B.M.J. i./77,345,379; B.M.J. i./78,490; L. i./83,185. Physiological action.—Phil. Trans. Roy. Soc. clxvii. pt.2,627.

Tinctura Erythrophlœi, B.P.C.

1 in 10 of rectified spirit.—*Dose.*—5 to 10 minims.

Eserine and **Eseridine**.—See pp. 303, 304.

ETHIDENI DICHLORIDUM.

Dichloride of Ethidene. *Syn.*—MONOCHLORETHYL-CHLORIDE; OR CHLORINATED CHLORIDE OF ETHYL.

A colourless volatile liquid possessing the odour and taste of chloroform. It is said to be identical with Chloride of Ethylidene, which is obtained as a bye-product in the manufacture of chloral, or may be made by the action of pentachloride of phosphorus on aldehyde, but a much more certain and uniform product may be obtained if made as the Monochlorethyl-Chloride, the preparation first used by Snow. It has Sp. Gr. about 1·2, boiling point 135° to 150° F. (147·2° Regnault.) It is isomeric with chloride of ethylene (Dutch liquid), but the boiling point and Sp. Gr. of the latter are higher. Dichloride of Ethidene is miscible in all proportions with pure ether, alcohol, and chloroform, soluble about 1 in 300 in water, being less so than chloroform.

It is a much safer anæsthetic than chloroform, but more costly.

It was used as an anæsthetic by Dr. Snow, who died while finishing his work on anæsthetics. He was taken ill while writing on this liquid; in the middle of a sentence he wrote his last word on the page. The word was "exit."—M.T.G. i./70, 642; P.J. 1870,3.

Compared with chloroform, Dichloride of Ethidene is pleasanter, more rapid in action, causes no excitement during nor after administration, more rapid recovery from it, and altogether there is less danger attending its use. Children require about 1 drachm, adults 4 or 5 drachms.—Steffen in Binz.

A dog will live for a lengthened period in a state of complete anæsthesia under the influence of Ethidene Dichloride, whilst it will die in a short time when chloroform is used. The circulation is more easily re-established when the cessation is due to Ethidene than to chloroform, but not so quickly as when due to ether. Ethidene reduces the blood pressure by regular gradations, and not, as with chloroform, by sudden and unexpected depressions. Under the use of Ethidene, there was, on no single occasion, an absolute cessation either of the heart's action or of respiration, although they are sometimes very much reduced. The disadvantages of ether in affecting respiration are, to a great extent, obviated by the use of Ethidene, whilst the dangers of chloroform are reduced to a minimum.—Reports of the Glasgow Committee on the action of Anæsthetics B.M.J. i./79,2; B.M.J. ii./80,957.

As an anæsthetic preferred to bromide of ethyl.—B.M.J. i./80,586.

Lecture on use in 287 cases of major surgery and 1,565 cases of minor; one death.—B.M.J. i./80,797.

Used in six cases as an anæsthetic, all presented the appearance of a strong stimulant to the heart's action at the commencement of the administration, only one was sick; a good anæsthetic for children.—M.T.G. i./79,62.

For operations on the eye, the writer is confident it is the best anæsthetic yet in use.—B.M.J. i./81,30.

Report of death from, result not attributable wholly to the anæsthetic.—B.M.J. i./81,385.

Arrest of the heart's action and recovery. It depresses more quickly and markedly than chloroform, but less persistently; on removing inhaler and allowing an inspiration of air, effects at once pass off.—B.M.J. i./81,431.

Action on the frog's heart like that of chloroform.—Pr. xxvii.13.

Death from, during eye operation.—L. i./83,143.
Note on administration of.—L. i./83,253.

EUCALYPTI FOLIA.

Eucalyptus Leaves.

Dose.—5 grains or more in powder.

The dried leaves of *Eucalyptus Globulus*, or blue gum-tree of Australia, have been employed medicinally in the treatment of ague and bronchitis, and are now much used in Italy for Roman and malarial fevers; also, when coarsely powdered, are employed for smoking in cigarettes in cardiac and aneurismal asthma. The narrow leaves, mostly scimitar-shaped, are more active medicinally than the broad leaves of herbaceous shoots. No alkaloidal principle has been discovered in them, or in the bark of the tree, which also has been used in surgery. The medical properties are principally due to a volatile oil, which is now largely imported.

Oleum Eucalypti (*Off.*).

Dose.—1 to 5 minims emulsified, or mixed with olive oil.

Is principally distilled from the leaves of *Eucalyptus amygdalina* as well as *E. Globulus*, *E. dumosa*, *E. oleosa*, and probably other species. It is to this oil, and partially to the great avidity the tree has for water when growing, that the latter owes its anti-malarial influence. The oil is a powerful antiseptic, and has an ozonising influence on the atmosphere while it oxidises. It has a pale yellow colour, a penetrating camphoraceous odour, Sp. Gr. about 0·900, and boils between 338° and 392° F. It is not caustic, like carbolic acid, nor does it produce much irritation when applied to the skin or mucous membrane, although it is very destructive to low organic growths. It is soluble in oils, fats, paraffins, and alcohol, but only a trace dissolves in water. An emulsion may be made by putting equal quantities of powdered gum arabic and the oil into a dry bottle, adding 40 parts of water, more or less, and shaking well. This is useful as a urethral injection or lotion, and may be given internally in 1 to 4-drachm doses. The oil is useful mixed with an equal quantity of olive oil as a rubefacient for rheumatism. The oil of *E. Citriodora* has an agreeable odour between that of lemon and verbena.

A large percentage of Eucalyptus oil consists of **Eucalyptol**, a liquid also met with in commerce; it is that portion of the above oil which passes over between 338° and 352° F. It is obtained by treating the latter with caustic potash, then with chloride of calcium and subsequent distillation. Later researches have proved that it is a mixture of Terpene and Cymene. It is preferred to the crude oil for use in the oro-nasal inhalers, as it does not dry up as a varnished coating.

Eucalembroth Gauze.—See p. 207.

Eucalyptus Gauze, Carbasus Eucalypti. In 6-yard pieces.

Unbleached cotton gauze, impregnated with

Oil of Eucalyptus	1
Dammar Resin	3
Paraffin Wax	3

An antiseptic surgical dressing. In using it there is no danger of poisonous absorption of the antiseptic, as with carbolic acid gauze.—L. i./81,838; B.M.J. i./81,850.

Eucalyptus Sawdust.

Oil, 1; Sawdust, 8. Used to deodorise the air of rooms.

Eucalyptus Wool, with 5 per cent. of Oil.

Iodoform and Eucalyptus Bougies.—See Iodoform, p. 222.

Tinctura Eucalypti Foliorum, B.P.C.

One part of leaves with rectified spirit to produce 5 parts of tincture. *Dose.*—15 minims to 2 drachms.

Unguentum Eucalypti (*Off.*).

Hard Paraffin	2 ounces.
Soft Paraffin	2 ounces.

Melt, and add while hot

Oil of Eucalyptus	1 ounce.

Stir till cold. A mild antiseptic dressing.

Unguentum Iodoformi et Eucalypti.—See Iodoform, p. 224.

History of the drug, its uses and botanical origin. Is a febrifuge, the leaves are also employed as a healing application to wounds.—M.T.G. i./74,540; P.J. 1874, 872; P.J. 1879,865.

Ague, rapid cure of, by 1 to 2 drachm doses of the tincture.—Pr. xviii.366.

In ozæna, bronchitis with profuse foul expectoration, and uterine catarrh, tincture and infusion used both internally and externally.—Pr. xx.206.

Tincture used in intermittent fever.—Pr. xx.411; Pr. xxiv.138. In scarlet fever.—B.M.J. ii./89,921.

In diphtheria, a mixture of 5 grammes of oil, 25 grammes of rectified spirit, and 170 grammes of water used for 10 inhalations, or equal parts of the oil and rectified spirit, of which 10 to 60 drops were used for an inhalation.—M.T.G. ii./79,214; Th. Gaz. Oct. 1888,670.

Oil of Eucalyptus is a powerful antiseptic—more than three times as strong as carbolic acid in preventing development of bacteria, and not so poisonous. 80 minims may be taken in 2½ hours.—Pr. xxv.212.

As a surgical dressing, gauze dipped in a solution of the oil 3, alcohol 15, and water 150. This gauze may be left undisturbed 4 or 5 days.—L. ii./80,387.

Air impregnated with Eucalyptus oil vapour recommended as a substitute for the carbolic spray.—B.M.J. ii./82,420.

Pessaries, composed of 6 drachms of Eucalyptus oil, and 4 drachms each, of oil of theobroma and white wax divided into 12, one night and morning, or at night only, found useful after parturition, checks fœtor and decomposition of lochial discharge; and 5 minims of Eucalyptus oil mixed with 20 of olive oil, used and recommended as a hypodermic injection for pyæmia.—L. ii./82,343.

Use of steam from the infusion of leaves in infectious diseases, especially diphtheria.—L. i./83,316; vapour of Eucalyptus oil used for diphtheria.—L. ii./83,362.

Headache, especially of congestive type, benefited by doses of 5 minims of oil.—Th. Gaz. Sept. 1889,643.

Use of oil as disinfectant in scarlet fever.—B.M.J. ii./89,1151. Atmosphere charged with same useful in cancer.—B.M.J. ii./89,1276.

Inhalation of oil is prophylactic to influenza, relieves the headache and oppression.—L. i./90,127,267.

EUCALYPTI GUMMI.

Eucalyptus Gum. *Syn.*—RED GUM.

Dose.—2 to 6 grains. May be made into pills with mucilage of acacia and a trace of glycerine, quickly manipulated.

An inspissated secretion from *Eucalyptus rostrata* and *corymbosa* and probably other species imported from

Australia. It is semi-translucent and garnet-coloured, not so dark as, but resembling, kino in appearance. Soluble in water, tough and difficult to powder, it adheres to the teeth when chewed, is intensely astringent to the mucous membrane, useful in diarrhœa, relaxed throats, and given with success to check the purging of mercurial pill administered for syphilis.

Lozenges recommended for sea sickness.—B.M.J. i./90,419.

This gum should be distinguished from the common Australian or Botany Bay kino, said to be the produce of *E. resinifera.* The latter is very resinous and little soluble in water.

Preparations.

Decoctum Eucalypti Gummi.

Eucalyptus Gum	1
Distilled Water	40

Boil till dissolved and strain. Used as gargle, and given for diarrhœa in 2 to 4 drachm doses.—L.ii./83,1029.

Extractum Eucalypti Gummi Liquidum.

Eucalyptus Gum	1
Distilled Water	3

Dissolve by constant shaking and strain.

Dose.—30 to 60 minims in water.

A styptic. Injected into the nostril stops bleeding from the nose, and applied on lint arrests hæmorrhage from wounds. A tablespoonful to a pint of water forms an astringent injection for the vagina or bowel (Squire). This dilution may be also used as a gargle.

Insufflatio Eucalypti Gummi.

Eucalyptus gum in fine powder.	
Starch in powder, of each ...	¼ grain.

Applied by means of an insufflator, is a powerful astringent in hæmorrhage and relaxed conditions of the larynx and trachea. It does not thus affect the palate or appetite.

Syrupus Eucalypti Gummi (Squire).

Liquid Extract of Eucalyptus Gum	5 ounces.
Sugar	3 ounces.

Dissolve.

Dose.—30 to 60 minims.

Tinctura Eucalypti Gummi (Squire).

Eucalyptus Gum	1 ounce.
Rectified Spirit	4 ounces.

Shake till dissolved and strain.

Dose.—20 to 40 minims. 1 part to 7 of water forms a very astringent gargle.

Trochisci Eucalypti Gummi.

Contain 1 grain in each, combined with fruit paste.

Trochisci Eucalypti Compositi.

Contain in each

Chlorate of Potassium ...	2 grains.
Cubeb Powder	¼ grain.
Eucalyptus Gum	1 grain.

With fruit paste, and are marked C.E.

Useful in congested and relaxed throats, especially when accompanied by arrest of mucous secretion.

EUONYMIN.

Dose.—½ to 5 grains. In a pill, with extract of henbane or glycerine of tragacanth.

The powdered extractive of a dark olive-brown colour generally, obtained from the bark of the root of the wahoo or spindle-tree—*Euonymus atropurpureus*. Possesses tonic, hydragogue, cathartic, diuretic, and antiperiodic properties. The so-called principle, Euonymite, obtained from it, proves to be identical with Dulcite.—P.J. 1889,273,460,472.

Extractum Euonymi Liquidum.

1 = 1 of bark, treated with rectified spirit 4, water 1.
Dose.—10 to 60 minims.

Pilula Euonymin.

Euonymin	2 grains.
Extract of Henbane	*q.s.*

To make one pill; take at bedtime. A cholagogue stimulant, producing no depression or headache; requires to be followed by a saline apericnt in the morning. —Pr. xxiii.335.

A powerful hepatic stimulant, but not nearly so powerful an irritant of the intestine as podophyllin.—B.M.J. Rep. 1878,63; B.M.J. i./79,177.

One grain, combined with 4 grains iridin, is a successful purging dose.—B.M.J. ii. 79,932.

Tinctura Euonymi, B.P.C.

Dose.—10 to 40 minims.

Euonymus Bark, in No. 20 powder	4 ounces.
Rectified Spirit	1 pint.

Moisten the powder, and macerate for 24 hours; then percolate to 1 pint.

EUPHORBIA PILULIFERA.

This Australian dried plant, having attracted much medical attention there, is now being used in France as well as here as a remedy for asthma and bronchial affections, in paroxysmal dyspnœa, laryngeal spasm, whooping cough, angina pectoris, and in all affections of the pneumogastric. It appears to act directly and solely on the respiratory and cardiac centres.—L. ii./85,86; P.J. 1885,987.

Decoctum Euphorbiæ Piluliferæ.—1 in 40.
Dose.—2 ounces twice daily.

Extractum Euphorbiæ Piluliferæ.
Dose.—½ to 1½ grains; is an aqueous extract.

Tinctura Euphorbiæ Piluliferæ, B.P.C.
1 in 5 of proof spirit.—*Dose.*—10 to 30 minims.

EXTRACTUM CARNIS.

Extract of Meat. *Syn.*—LIEBIG'S EXTRACT. Sold retail in 2, 4, and 16 oz. jars.

This extract is principally prepared in South America and Australia, where meat can be obtained cheaply. It is of a brown colour, and has an odour of roast meat. It is prepared by concentrating by evaporation, an aqueous infusion of meat. During the process, the fat and albumen are separated. It contains little or no gelatine, but consists of creatin, creatinin, globulin, and urea, with organic potash and other salts. It has been much overestimated as a food, either for invalids or healthy persons; still it is often valuable as a flavouring to add to soups, beef-tea, &c., and it is a *nervous* food allied to tea. A quarter of a teaspoonful or more may be added to a breakfast-cup full of boiling water, with salt to taste, to form a beef-tea.

Creatin, a constant constituent of muscle, has been recommended for cases of debility, and stimulating power of muscular action, in doses of 1½ grains four to six times daily.—P.J. 1888,506.

The other preparations of meat sold for medicinal use are :—

Concentrated Beef-Tea (Brand's).

A firm jelly, sold in ¼ and ½ lb. tins, also in skins, contains the natural gelatine of the meat, and, diluted, forms a nutritious substitute for true beef-tea.

Essence of Beef (Brand's).

Sold in ¼ lb. tins.

A soft, transparent, amber-coloured jelly, prepared from beef by exhausting with tepid water. It is agreeable to the palate and stomach of a delicate invalid; will often be relished when all other food is repelled, and is useful in allaying obstinate vomiting. It is best taken cold by teaspoonfuls, as desired, with or without a little bread and wine. A similar preparation is made from chicken.—M.T.G. i./61,536,587.

Meat Lozenges (Brand's).

Sold in boxes; are savoury, gelatinous essence of beef lozenges, and contain substantial support for travellers in a portable form.

Peptonised Beef Jelly.—See Pancreas, p. 281.

Meat Juice (Valentine's).

Sold in 2 oz. bottles.

A dark, reddish-brown liquid preparation of meat, imported from Richmond, U.S.A. It is the expressed juice of meat concentrated at a low temperature in vacuo. A teaspoonful is added to 3 tablespoonfuls of cold or tepid water, and taken in tablespoonful doses or more for sickness or exhaustion. Hot water coagulates the albumen in it.

Sanguis Bovinus Exsiccatus, Desiccated Blood. An American preparation.

Blood freed from fibrin, evaporated, at a low temperature, to dryness. Is in blackish-red, opaque scales, like tartarated iron in appearance, readily soluble in cold water. One part in 8 of tepid water may be used as an enema; the same strength, with the addition of a little glycerine and brandy, to keep the mixture, is recommended to be given in tablespoonful doses; or it may be given powdered, put into cachets.

Useful as a nutritive enema.—L. i./81,322.

Use in puerperal insanity as enema.—L. ii./83,278.

Meat extracts derive their properties from the creatin and creatinin in them, and not from albumen.—Pr. xxxix. 257.

FERRI BROMIDUM.

Bromide of Iron.

Dose.—3 to 10 grains.

Prepared by the direct combination of bromine with metallic iron in the presence of water, and evaporating the solution till, when cooled, it will solidify. In greyish-white deliquescent masses, which, on exposure to the air, acquire a brown colour from oxidation.

Syrupus Ferri Bromidi. B.P.C. *

Dose.—$\frac{1}{2}$ to 1 drachm.

Iron Wire, free from oxide	$\frac{1}{2}$ ounce.
Bromine	533 grains.
Refined Sugar	14 ounces.
Distilled Water... ...	*q.s.* to 1 pint.

Dissolve the sugar in 6 ounces of water, by the aid of heat. Put the iron wire with 4 ounces of water into a pint flask, and surround it with cold water. Then add the bromine in successive quantities; shake occasionally until the froth becomes white, and the reaction is complete. Filter the solution into the warm syrup, and add, if necessary, distilled water *q.s.* to 1 pint.

Each drachm contains about $4\frac{1}{2}$ grains of bromide of iron. The U.S. syrup is stronger—contains 10 per cent. of the bromide.

Syrupus Ferri et Strychninæ Hydrobromatum.

Dose.—1 drachm = $\frac{1}{64}$ grain Strychnine (in former editions $\frac{1}{32}$ grain) and about $4\frac{1}{2}$ grains of Bromide of Iron.

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* **Syrupus Ferri Bromidi**, in former editions, was directed to be, and can be more readily, prepared by heating together Bromide of Iron, 160 grains; Iron Wire, free from oxide, 10 grains; Distilled Water, 3 drachms; till, on filtering, the solution passes almost colourless; when the liquid ceases to pass, washing the filter with a few drops of distilled water, and adding the whole of the filtrate to syrup *q.s.* to 4 ounces. It is nearly identical in strength with the above.

Strychnine	1	grain.
Diluted Hydrobromic Acid...	3	drachms.

Dissolve and add

Syrup of Bromide of Iron to	8	ounces.

Mix.

In one drachm of each of the last two syrups one grain of acid-hydrobromate of quinine is dissolved to form respectively,

Syrupus Ferri et Quininæ Hydrobromatum. B.P.C. *Syn.* — SYRUPUS FERRI BROMIDI CUM QUININA.—*Dose.*—½ to 1 drachm.

Syrupus Ferri Quininæ et Strychninæ Hydrobromatum. B.P.C. *Syn.*—SYRUPUS FERRI BROMIDI CUM QUININA ET STRYCHNINA.—*Dose.*—½ to 1 drachm.

FERRI PERCHLORIDUM.

Perchloride of Iron.

(With 12 molecules of water of crystallization.)

Dose. –2 to 8 grains.

The official preparations of Perchloride of Iron are :— Liquor Ferri Perchloridi, *dose,* 10 to 30 minims ; Liquor Ferri Perchloridi Fortior, *dose,* 2 to 8 minims; and Tinctura Ferri Perchloridi, *dose,* 10 to 30 minims. They are incompatible with infusions, &c., containing tannin, with the alkalies, alkaline carbonates, and mucilage of acacia. The tincture, composed of strong liquor 1, rectified spirit 1, and water 2, is the most generally used, and most valued preparation of iron for internal administration in anæmia, chlorosis, &c. If diluted from well-prepared strong Liquor, the tincture is more stable than the weak Liquor, which, for economy's sake, often supplants it. The strong Liquor is generally employed topically as a styptic or pigment; for this purpose, it has the disadvantage of containing a little more free acid than chemically neutralises the iron as perchloride. As a hæmostatic, therefore, the solid crystallized perchloride of iron containing 12 molecules, 40 per cent. of water, or a strong solution of it, is preferred. This salt is prepared by carefully evaporating the stronger official solution and setting aside to crystallize. It is in pale orange-yellow opaque crystalline masses, very deliquescent, and entirely soluble in water. A crystalline perchloride of iron, containing only five molecules of water, is much used in France; it is in drier masses, but does not make a bright solution. The anhydrous perchloride, having such great affinity for water, would act as a powerful caustic.

A **Liquor Ferri Perchloridi Fortior** of B.P. Sp. Gr. 1·42 may be made from the first-named salt by dissolving

Perchloride of Iron, with 12Aq.	5 parts.
Distilled Water	2 parts.

In T. H. the salt is ordered in

Injectio Ferri Perchloridi, 60 grains in 1 ounce.

Nebula Ferri Perchloridi, 3 grains in 1 ounce.

Pigmentum Ferri Perchloridi Dilutum, 60 grains in 1 ounce.

Pigmentum Ferri Perchloridi Forte, 120 grains in 1 ounce.

Glycerine covers its metallic astringent taste when given internally, and modifies the styptic properties of Perchloride of Iron partially by its viscosity, and partially by reducing it from the ferric to the ferrous state.

In post-partum hæmorrhage Perchloride of Iron is of great service. Soak a sponge, fixed on a whalebone stem, in a mixture of one volume of the stronger Liquor Ferri Perchloridi B.P. (= 1 part of solid, which is more styptic and portable) with three volumes of water, and pass into the cavity of the uterus as a swab.—Barnes' Obstetric Operations, 3rd edit., 476. Also used as an injection, 1 of solid to 10 of water.

Gossypium et Linteum Ferri Perchloridi, Styptic Wool and Lint, each contain 15 per cent. of the perchloride.

Tinctura Ferri Muriatis.—P.E.—*Dose.*—10 to 30 minims.

Sesquioxide of Iron (prepared by precipitation of ferrous sulphate with sodium carbonate) 6 ounces, Muriatic Acid 1 pint. Digest three days; add Rectified Spirit 3 pints, and filter. Contains some Ferrous Chloride, and is preferred by some practitioners.—B.M.J. i./87,1206; ii./87,69,95,107,217,335.

Mistura Ferri Amara.—U.C.H.

Solution of Perchloride of Iron	30 minims.
Spirit of Chloroform	5 minims.
Infusion of Quassia	to 1 ounce.

Mistura Ferri Aperiens.—U.C.H.

Sulphate of Magnesium	60 grains.
Sulphate of Iron	4 grains.
Diluted Sulphuric Acid	9 minims.
Peppermint Water	to 1 ounce.

Dissolve and mix.

Mistura Ferri Arsenicalis.—U.C.H.

Dose.—½ to 1 ounce.

Citrate of Iron and Ammonium	7½ grains.
Arsenical Solution	5 minims.
Tincture of Calumba	24 minims.
Water	to 1 ounce.

Dissolve and mix.

Mistura Ferri Perchloridi.—U.C.H.

Solution of Perchloride of Iron	15 minims.
Spirit of Chloroform	9 minims.
Glycerine	9 minims.
Water	to 1 ounce.

Mistura Ferri Salina.—U.C.H.

Citrate of Potassium	22 grains.
Solution of Perchloride of Iron	24 minims.
Spirit of Chloroform	9 minims.
Water	to 1 ounce.

Dissolve and mix.

The styptic taste of iron is masked in this mixture, as a double decomposition occurs between the iron and the potash salt. If to 30 minims of the solution of Perchloride of Iron, 15 minims of the solution of Citrate of Ammonium be added, its styptic taste is effectually disguised.

Liquor Ferri Chloroxidi.

Strong Solution of Perchloride of Iron	4 ounces.
Distilled Water	2 pints.

Mix, and add in excess,

Solution of Ammonia	*q.s.*

Collect, wash well the precipitate, stir, and dissolve it with a gentle heat in

Strong Solution of Perchloride of Iron	1 ounce.
Distilled Water, to make when filtered	1 pint.

Dose.—10 to 30 minims.

The above makes a basic solution of Ferric Chloride, of the same strength as the tincture. By placing this solution on a septum floating in water, it may be further freed from chloride, and rendered less styptic in taste, forming

Liquor Ferri Dialysatus (*Off.*).—Sp. Gr. 1·047.

Dose.—10 to 30 minims.

The two last preparations, made as directed, are dark reddish-brown in colour, and contain about 5 per cent. of ferric chloride. The strength of the latter will be slightly variable, as some of the iron passes through the septum. The manufacturers' processes for making it vary; it is, in reality, *un*-dialysed, or colloid, iron, as it does not pass through the septum; doubts have, therefore, been cast on its digestibility and its utility as a medicine.—P.J. 1880,639,709,723.

These two preparations of iron are useful when the strong acid preparations of iron cannot be borne by the stomach, but they are compatible with few other medicines, they will not bear dilution with common water, or with much distilled water without depositing the oxide. They ought, therefore, to be supplied to the patients as "drops," undiluted, or mixed with glycerine. —See p. 185.

Dialysed iron is useful as an antidote to arsenic—much superior to the moist peroxide; 1 ounce doses should be given repeatedly, preceded by a dose of common salt or bicarbonate of sodium.

Glycerinum Ferri Dialysati.

Dialysed Iron Solution ...	20 minims.
Glycerine	40 minims.

Keeps well, and is palatable. *Dose.*—1 drachm.

Syrupus Ferri Dialysati.

Dose.—1 drachm (contains 20 minims of liquor). Is a very unstable preparation.

Experiments as to the antidotal value of dialysed iron solution.—P.J. 1878,281,569,1001.

Arsenical poisoning case recovered by treating with 2-drachm doses given diluted with water frequently.—P.J. 1878,570.

The chloroxide solution in treating a case of extreme anæmia during nine weeks, increased the number of red-blood corpuscles from 26 per cent. to 92 per cent.; in another case, patient taking Liq. Ferri Chloroxidi, m.xx., cum Liq. Bismuthi et Ammonii Citratis, m.xx., ter die, for thirteen weeks, from 47 to 102 per cent.—L. i./78,675; Pr. xxi.1.

Liquor Ferri Albuminati, Solution of Albuminated Iron.

Dose.—1 to 4 drachms.

Dried Egg Albumen ...	30 grammes.
(Or fresh do. about 4 eggs are required ...	150 grammes.)
Cinnamon Water ...	270 grammes.
Solution of Dialysed Iron	90 grammes.
Caustic Soda	1·125 grammes.
Rectified Spirit... ...	150 grammes.
Distilled Water to ...	1,000 grammes.

Dissolve the albumen in the cinnamon water; then dilute the solution of iron with 400 grammes of water, and add the spirit. Mix the solutions, add the soda, and set aside for several hours; then filter through cotton, and add water to weigh 1,000 grammes. Is easily digested and borne by a delicate stomach.

Liquor Ferri Peptonati, Solution of Peptonated Iron.

Dose.—1 to 4 drachms.

Dried Egg Albumen ...	10 grammes.
Pepsin	0·5 grammes.
Solution of Dialysed Iron	90 grammes.
Syrup	30 grammes.
Brandy...	100 grammes.
Distilled Water to ...	1,000 grammes.

Dissolve the albumen in 190 grammes of water, add the pepsin, and digest for four hours at 40° C. (104° F.), Mix the solution of iron with the syrup and 550 grammes of water, mix with the solution of albumen, and heat to 90°–95° C. (194°–203° F.) Cool, add the brandy, and water to weigh 1,000 grammes. After eight days decant the clear solution.

Tinctura Ferri Pomata, P.G. *Dose.*—15 to 30 minims.

Ferrated extract of apples (prepared by digesting iron filings in juice of sour apples) 1 part, Cinnamon Water (P.G., containing 10 per cent. of alcohol) 9 parts. Dissolve and filter.

Liquor Ferri Acetatis and **Liquor Ferri Acetatis Fortior.**—*New.*

Ferric hydrate is precipitated by means of excess of ammonia from solution of persulphate of iron 5, diluted with water 40; it is washed, drained, squeezed, and lastly dissolved in glacial acetic acid 3, and water added *q.s.* to 10; after standing, decant. This forms the **Strong Solution**, which is diluted to make **Liquor Ferri Acetatis**, and **Tinctura Ferri Acetatis.** *Dose* of each.—5 to 30 minims.

Ferri Sulphocyanidum. *Dose.*—?

In blackish red crystals, soluble in water. Used for anæmia.

FERRI PHOSPHAS.

Phosphate of Iron (*Off.*).

Syn.—FERROUS PHOSPHATE. The U.S. Ferri Phosphas is a soluble sodio-citro-ferric phosphate. *Dose.*—2 to 10 grains.

Syrupus Ferri Phosphatis (*Off.*).*

Dose.—1 drachm, which contains 1 grain of phosphate of iron.

The B.P. process may be simplified as follows:—

Iron Wire, free from oxide	360 grains.
Concentrated Phosphoric Acid, Sp. Gr. 1·5	10 ounces, 463 minims.
Distilled Water	6 ounces.

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[*] The B.P. preparation is now exceedingly acid. If 7½ ounces only of the concentrated acid be used, it will be equal in strength to that of B.P. 1867. Even this is very acid, but keeps well.—P.J. 1887,515.

Place in a glass flask, so that the fluid completely covers the iron wire, plug the neck with cotton wool, and put in a warm place until dissolved. Then filter and add

Syrup (cold)	72 ounces.
Distilled Water to	96 ounces.

Mix. It is best kept in bottles quite full.

Syrupus Ferri et Manganesii Phosphatum.

May be made by dissolving ½ grain phosphate of manganese in each drachm of the last.

Syrupus Ferri Phosphatis Compositus. B.P.C.

Syn.—CHEMICAL FOOD; PARRISH'S SYRUP (*modified*).

Dose.—½ to 2 drachms.

Iron Wire, free from oxide...	37½ grains.
Concentrated Phosphoric Acid, Sp. Gr. 1·5 ...	1 ounce.
Distilled Water	5 drachms.

Place in a glass flask, so that the liquid completely covers the wire, plug with wool, and heat gently till dissolved. Now take of

Precipitated Carbonate of Calcium	120 grains.
Concentrated Phosphoric Acid	4 drachms.
Distilled Water	2 ounces.

Mix and add

Bicarbonate of Potassium ...	9 grains.
Phosphate of Sodium ...	9 grains.

Then add the solution of phosphate of iron, filter, and set aside.

Cochineal	30 grains.
Distilled Water	7½ ounces.

Boil for 15 minutes and filter, pouring over the filter sufficient water to produce seven ounces. To this add

Refined Sugar	14 ounces.

Heat till dissolved and strain. When cold, add the solution of phosphates, and sufficient water to measure 1 pint. Contains in each drachm about ½ grain Phosphate of Iron and ⅛ grain Phosphate of Calcium, with small quantities of the Phosphates of Potassium and Sodium. It should be kept in bottles quite full. It is not too nauseous to administer to children, for whom it is frequently prescribed, in teaspoonful doses.

Syrupus Ferri, Quininæ et Strychninæ Phosphatum. *Adopted by B.P.C.*

Syn.—Easton's Syrup (*modified*).

Dose.—½ to 1 drachm. Contains phosphate of iron 1 grain, phosphate of quinine ¾ grain, and strychnine $\frac{1}{32}$ grain in 1 drachm.

The original formula was published in Aitken's Practice of Medicine, vol. ii. p. 62, 5th ed.

Strychnine, in powder ... 5 grains.
Concentrated Phosphoric Acid Sp. Gr. 1·5, 75 minims.
Distilled Water ... ... 225 minims.

Dissolve and add
Phosphate of Quinine ... 120 grains.
Dissolve by the aid of a gentle heat, and add
Syrup of Phosphate of Iron to 1 pint.
Mix.

Useful for obstinate gleet.—L. i./88,1019.

Elixir Ferri, Quininæ et Strychninæ Phosphatum.

Dose.—½ to 1 drachm.

As the Phosphate of Quinine is apt to crystallize out of Easton's Syrup, even if containing only ¾ grain in a drachm, a more stable and agreeable preparation may be made by dissolving the strychnine and phosphate of quinine (equal to $\frac{1}{32}$ and 1 grain in a drachm respectively) in the solution of phosphate of iron (*See* Syrupus Ferri Phosphatis, p. 186), and using simple elixir in place of syrup as a vehicle.

Easton's syrup has its equivalent dose in the following pill, which is portable, tasteless, and readily soluble :—

Pilula Ferri (1 gr.), Quininæ (1 gr.), et Strychninæ ($\frac{1}{32}$ gr.) Phosphatum.

Phosphate of Iron	16 grains.
Quinine, pure (=sulphate 16 grs.)	12 grains.
Strychnine	½ grain.
Sugar	8 grains.
Concentrated Phosphoric Acid	20 drops or *q.s.*

Mix quickly, having first triturated the strychnine with the phosphate, and divide into 16 pills.

FERRO-ALUMEN.

Iron Alum, T.H. *Syn.*—FERRI ET AMMONII SULPHAS, AMMONIO-FERRIC ALUM, U.S.

Dose.—3 to 10 grains, in water.

Pale amethyst octahedral crystals, efflorescent on exposure to the air, odourless, having an acid, styptic taste, and slightly acid reaction; soluble 1 in 3 of water; insoluble in alcohol. Is used internally to arrest hæmorrhage from the kidneys, and employed as an astringent and styptic gargle—8 grains to an ounce—also as a throat spray and pigment.

FUCUS VESICULOSUS.

Bladder Wrack. *Syn.*—SEA WRACK.

Preparations of this sea-weed, being rich in iodine, bromine, and chlorine salts, have for a long time had the reputation of being useful in reducing corpulence. A liquid extract has been advertised and sold as "Anti-fat."

Extractum Fuci Vesiculosi.

Dose.—3 to 8 grains before meals, conveniently given in 4-grain pills, with althæa. It is exhausted by a semi-alcoholic menstruum.

Extractum Fuci Vesiculosi Liquidum.

Dose.—1 or 2 drachms before meals.

Combined with liquor potassæ, reduced the fat of a lad who had suddenly become very corpulent.—Pr. xvi.312.

The extract, in 4-grain doses three times a day, given to lessen fat, with good results.—B.M.J. i./79,881.

Extract given with good results; does not produce dyspepsia or diarrhœa.—B.M.J. i./79,960.

Pills, 4 grains in each, three times a day, given for obesity, acted as a diuretic; did not diminish the weight. —B.M.J. ii./79,315.

An obese man was diminished.—B.M.J. ii./79,482.

A lady lost 20 lb. in 9 weeks when taking the liquid extract; and a gentleman 8 lb. in 6 weeks; another 8 lb. in 3 weeks, without bad results.—B.M.J. ii./79, 482.

GELSEMIUM.

Syn.—GELSEMINUM.

The dried rhizome and rootlets of "yellow jasmine" —*Gelsemium nitidum* (*G. sempervirens*, Aiton)—imported from the United States, must be distinguished from the yellow jasmine cultivated here, which is a species of *Jasminum*. Gelsemium is said to have febrifuge properties, as it lowers the pulse and depresses the nervous system. It has been much used in acute and rheumatic neuralgia, and toothache. It is a powerful paralyzer and respiratory poison. Large doses contract the pupil and cause giddiness and diplopia. It contains, in combination with gelsemic acid, the alkaloid

Gelsemina, Gelsemine. *Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain.

A yellowish white micro-crystalline powder, with a bitterish taste, odourless, sparingly and slowly soluble in water, easily soluble in alcohol, ether, dilute acids, and 1 in 100 of castor oil. Applied locally, it dilates the pupil of the eye. Commercial *amorphous* Gelsemine has been found to consist of two alkaloids, one of which forms a crystalline hydrochlorate, while the other is uncrystallizable.

Gelseminæ Hydrochloras, Gelsemine Hydrochlorate. *Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain.

In white, granular crystals, freely soluble in water.

Liquor Gelseminæ Hydrochloratis.

Hydrochlorate of Gelsemine ...	1 grain.
Distilled Water	1 drachm.

Dose.—Hypodermically 1 to 3 minims. Useful in facial neuralgia. The solution is likewise recommended for quickly dilating the pupil previous to ophthalmoscopic examination. The maximum dilatation occurs in 50 to 70 minutes, and, as its action is not so prolonged as that of atropine, the inconvenience of a dilated pupil more rapidly subsides.—L. i./77,832; B.M.J. ii./79,362.

Ophthalmic discs contain $\frac{1}{500}$ grain Gelsemine combined with gelatine.

Gelsemin. *Dose.*—$\frac{1}{2}$ to 2 grains in a pill, with spirit and glycerine.

The powdered alcoholic extractive of a pale brown colour obtained from Gelsemium root. Useful in neuralgia and as an hypnotic. *Must be distinguished from the alkaloid.*

Case of severe toxic symptoms following $\frac{1}{10}$ grain gelsemine hydrochlorate, given instead of gelsemin. B.M.J. i./89, 355.

Extractum Gelsemii Alcoholicum (*Off.*).

The powdered drug is percolated with rectified spirit, displaced with water, and the tincture evaporated to an extract. Is intended as the official equivalent of Gelsemin (see above).

Dose.—½ to 2 grains.

Pilula Butyl-Chloral cum Gelsemina.—See p. 81.

Tinctura Gelsemii (*Off.*).

Gelsemium Root	... ...	1 ounce.
Proof Spirit	... ...	8 ounces.

Dose.—5 to 30 minims, often given in combination with bromide of ammonium or potassium for neuralgia. The tincture has a pale brown colour and a fluorescent surface.

References.

Neuralgia of face and jaws associated with carious teeth—15 minims of the tincture every 6 hours rarely fails to give relief.—Pr. xv.115; L.i./73,731; B. and F.M.C.R. lvii.474.

Physiological effects, experiments and investigations of, &c.; is an antidote to strychnine.—L. ii./75,907; L. i./76,82,124,415,489,561,661,732; L. ii./76,569; L. i./78,858,892,953.

Dilates the os uteri in the non-puerperal state.—Pr. xviii.131.

Valuable remedy for rigid os during labour.—M.R. 1879,186.

Checks the hectic of consumption.—Pr. xxiii.375.

Dilates the pupil, used locally, whilst the internal use contracts it. Used with decided success in neuralgia of the dental nerves, even when the teeth are carious.—

Relieves maxillary neuralgia, but leaves frontal unaffected; 20 minims of tincture for a dose, repeat in 1½ or two hours. If a third dose is required, its use is contra-indicated.—L. ii./75,660.

In neuralgia of the fifth pair of nerves 20 minims every half-hour up to three doses. Specially useful in rheumatic neuralgia of the gums.—Br. ii./79,xxiv.

Death from 2 ounces of tincture.—L. i./82,74.

Case of traumatic tetanus treated by Gelsemium with recovery.—B.M.J. ii./82,1245; B.M.J. i./83,9.

Diplopia and ptosis may be caused by large doses.—B.M.J. ii./83,323.

GINGERIN.

Dose.—¼ to 1 grain, in a pill or much diluted with spirit.

In commerce this is the crude liquid oleo-resin obtained from ginger, the rhizome of *Zingiber officinale.* It has the colour and consistence of treacle, with an aromatic and very pungent taste. Is a useful addition to purgative pills as a corrective to prevent them griping.

Tinctura Carminativa, B.P.C.

Cardamom Seeds, bruised, 600 grains; Stronger Tincture of Ginger, 1¼ ounces; Oil of Cinnamon, 100 minims; Oil of Caraway, 100 minims; Oil of Clove, 100 minims. Macerate the cardamoms in 15 ounces of Rectified Spirit for a week, decant, express, and dissolve the oils in the mixed tinctures, making up to one pint with Rectified Spirit. *Dose.*—2 to 10 minims.

GLYCERINUM.

Glycerine (*Off.*).

Dose.—10 minims to 2 drachms.

Preparations—Official.

Glycerinum Acidi Carbolici	1 to 4
Glycerinum Acidi Gallici (by water bath)...	1 to 4
Glycerinum Acidi Tannici (by water bath)	1 to 4
Glycerinum Aluminis	1 to 5
Glycerinum Amyli (heated)	1 to Glycerine 5, Water 3
Glycerinum Boracis ...	1 to Glycerine 4, Water 2
Glycerinum Plumbi Subacetatis.—See p. 194.	
Glycerinum Tragacanthæ.—See p. 373.	

Stronger solutions of carbolic and tannic acids are sometimes preferred. As a throat pigment, and for uterine application, that of tannic acid may be used double the above strength 1 to 2 of Glycerine. Glycerine of borax is not a mere solution: it has an acid reaction, and when mixed with an alkaline carbonate evolves carbonic acid; it is useful in infantile diarrhœa, in doses of 20 minims, repeated according to age.—L. ii./89,739.

Glycerinum Aluminis is a useful astringent pigment in chronic pharyngitis; is less disagreeable than tannin.—B.M.J. i./85,178.

Glycerinum Amyli, containing 1 in 1000 of corrosive sublimate, recommended as a non-irritating absorbent dressing for wounds.—B.M.J. ii./88,663; Th. Gaz., Dec. 1888,844.

Half an ounce of Glycerine alone, or with one-third part of water added, forms a useful enema for constipation.—L. i./88,38. For this purpose **Suppositories** may be made to contain 12 grains, $\frac{1}{8}$, or $\frac{1}{4}$ ounce glycerine combined with gelatine.

Two drachms injected into the rectum lessens the size of piles. B.M.J. i./89,241.

Injections of two drachms also useful in infantile diarrhœa. Pr. xli.418; P.J. 1888,507.

Unofficial.

Boroglyceride.—See Acidum Boricum, p. 7.

Gelato-Glycerine, T.H.

Gelatine 5, Water 6, dissolve, add Glycerine (by weight) 6, and evaporate to produce 15. Used as a base for nasal and urethral bougies. Is firmer than Glyco-Gelatine.

Glycerine Jelly, for the Hands.

Gelatine	140 grains.
Rose Water	6 ounces.

Soak a few minutes, and heat in a water-bath to dissolve, add, when cool but still fluid,

White of Egg	$\frac{3}{4}$ ounce.

Heat to coagulate completely, and add

Glycerine	6 ounces.
Salicylic Acid	12 grains.

Mix well, filter through a hot-water funnel, and bottle while warm. A harder jelly, for microscopic purposes, is prepared in a similar manner.

Glycerinum Acidi Borici.—See p. 4.

Glycerinum Aluminis et Acidi Tannici.

Potassium Alum (free from iron), in powder	1 ounce.
Glycerine	6 ounces.

Heat to dissolve, and add

Tannic Acid...	1 ounce.

This forms a solution which is a very astringent throat pigment; has the advantages of a gargle without destroying the appetite. An ounce to a pint of tepid water forms a useful astringent vaginal injection.

Glycerinum Belladonnæ.—See Belladonna, p. 74.

Glycerinum Bismuthi Nitratis.

Nitrate of Bismuth, in crystals ... (true nitrate.)	60 grains.
Glycerine	1 ounce.

Dissolve without heat. Used as stimulant application in eczema.—P.J. 1874,389,470,484,508.

Glycerinum cum Aqua Rosæ.

Glycerine	2 ounces.
Rose Water, prepared with Otto	3 ounces.

Mix. An agreeable emollient for the skin.

Glycerinum Ferri Dialysati.—See p. 185.

Glycerinum Hydrargyri Perchloridi contains $\frac{2}{3}$ grain in 1 minim.—See p. 205.

Glycerinum Iodi.—See Iodum, p. 228.

Iodo-Glycerine Solution.—See Iodum, p. 228.

Glycerinum Olei Ricini.

Equal volumes of Castor Oil and Glycerine are emulsified by adding the oil gradually, triturating thoroughly, to the Glycerine contained in a mortar; a semi-solid compound is formed, which, when flavoured with essential oil of almond or lemon, is not nauseous, and as a purge does not lose its effect.—L. i./83,263,303; Pr. xxx.65.

Dose.—A teaspoonful, or more.

Glycerinum Plumbi Subacetatis (*Off.*).

Syn.—PIGMENTUM PLUMBI—GLYCEROLE OF SUBACETATE OF LEAD.—B.S.H.

Acetate of Lead	5 ounces.
Oxide of Lead, in powder ...	3½ ounces.
Glycerine	20 ounces.
Distilled Water	12 ounces.

Mix together, and boil for a quarter of an hour; then filter and evaporate to one pint. This is the same strength as Goulard's Extract—Liquor Plumbi Subacetatis, B.P., with glycerine for the solvent in place of water; it keeps much better than, and does not deposit like, the latter.—P.J. 1876,881.

This pigment is useful as an astringent and sedative in cases of chronic eczema. It should first be applied diluted 1 part with about 7 of glycerine, and the strength gradually increased; it desiccates the eruption without producing a hard crust. It may also be diluted with four parts of milk as a lotion for eczema, but this Lotion,

Lotio Plumbi cum Lacte is generally made with liquor plumbi subacetatis, 1 or 2 drachms to the ounce of milk, with a little Eau de Cologne added.—Br. ii./82,225.

Liquor (or Lotio) Plumbi Lactatis, West. H., has 1 part of Solution of Subacetate of Lead to 15 of Milk, but it is more frequently used about 1 to 9.

The glycerole has also been found useful, in some uterine affections, applied on absorbent wool, diluted as above.

Unguentum Glycerini Plumbi Subacetatis (*Off.*).

Glycerine of Subacetate of Lead	4½ ounces.
Soft Paraffin	18 ounces.
Hard Paraffin...	6 ounces.

Melt the paraffins together, add the glycerine of lead, and stir till cold. This preparation is equivalent to the old Goulard's cerate; the latter is prone to become rancid, whereas the above will keep indefinitely. It is found a most useful application in chronic eczema, ulcerated legs, &c. It can be kept constantly applied on lint or rag, as it does not become absorbed by the dressing, or stick to the sore, but comes off clean on removing the lint. It is useful also in tinea tarsi.

Unguentum Zinci Compositum, R.O.H., Ointment of Zinc, Ointment of Glycerine of Subacetate of Lead, of each equal parts. Rub well together.

Glycerinum Tragacanthæ (*Off.*).—See Tragacantha, p. 373.

Glyco-gelatine, T.H.

Refined Gelatine	1 ounce.
Glycerine (by weight)... ...	2½ ounces.
Ammoniacal Solution of Carmine	*q.s.*
Orange Flower Water ...	2½ ounces.

Soak the gelatine in the water for two hours, then heat in a water-bath till dissolved, add the glycerine, and stir well together. Let the mixture cool, and when nearly cold add the carmine solution, mix till uniformly coloured, and set aside to solidify.

Glyco-gelatine affords a ready method of prescribing lozenges to meet the requirements of individual cases; one ounce of the mass will make twenty-four pastils; it is medicated by melting in a water-bath, and the medicament added; or this, if insoluble, is first rubbed with a little glycerine, and then mixed with the hot basis, and cooled by pouring into an oiled tray, and, when solidified, cut into the required number of pastils. Pastils are especially suited to cases of inflammation of the tongue or palate, and their gelatinous nature gives much relief in dryness of the throat. The following list may be kept prepared :—

Pastillus	Acidi Borici, T.H.	gr.2
,,	Acidi Carbolici, T.H.	gr.$\frac{1}{2}$
,,	Aconiti Tinct.	m.i.
,,	Ammonii Chloridi, T.H.	gr.2
,,	Bismuthi Carbonatis, T.H.	gr.3
,,	Bismuthi Carbonatis, T.H. Morphinæ Acetatis	gr.3 gr.$\frac{1}{40}$
,,	Bismuthi Carbonatis, T.H. Potassii Chloratis	gr.3 gr.2
,,	Cocæ Extracti	gr.2$\frac{1}{2}$
,,	Cocainæ Hydrochloratis	gr.$\frac{1}{20}$
,,	Cocainæ gr.$\frac{1}{30}$ et Morphinæ	gr.$\frac{1}{80}$
,,	Codeinæ	gr. $\frac{1}{5}$
,,	Hydrargyri Perchloridi Potassii Chloratis	gr.$\frac{1}{20}$ gr.3
,,	Iodoformi, T.H. (more or less if prescribed.)	gr.1
,,	Morphinæ Acetatis	gr.$\frac{1}{40}$
,,	Potassii Chloratis	gr.2
,,	Sulphuris Precipitati Potassii Tartratis Acidæ	gr.5 gr.1
,,	Thymol	gr.$\frac{1}{32}$

Mass for Pessaries.

Gelatine .. .. 1 ounce.

Immerse in four ounces of water for a few seconds, drain, and in half an hour add

Glycerine ... ... 4 ounces.

Dissolve in a water-bath. Should weigh six ounces.

GLYCYRRHIZA.

Liquorice (*Off.*).

Dose of root, in powder.—5 to 20 grains or more.

Preparations.

Extractum Glycyrrhizæ (*Off.*).

Dose.—5 to 60 grains.

Extractum Glycyrrhizæ Liquidum (*Off.*).

A fluid formed of the above contains $\frac{1}{8}$ of its volume of rectified spirit.

Dose.—20 minims to 1 drachm.

Glycyrrhizinum Ammoniatum.—Ammoniated Glycyrrhizin, U.S.

Dose.—$\frac{1}{2}$ to 5 grains, or more.

Glycyrrhizin, the sweet principle of liquorice, is precipitated, from solution in water, by acids. Being contained in the root as an ammoniacal compound, it forms garnet-coloured, shining scales when precipitated, purified, recombined with ammonia, and dried on glass plates; these possess the persistent sweet taste of liquorice. A grain will flavour 6 ounces of water.—P.J. 1875,53.

The before-mentioned preparations of liquorice are useful for covering the taste of nauseous drugs given in a liquid form, such as chloride of ammonium, sulphate of magnesium, sulphate of quinine, ipecacuanha, and aloes. In tincture of aloes, liquorice effectually disguises the bitter taste; it is also added, for the same purpose, to Mistura Sennæ Composita, Decoctum Aloes Compositum, Confectio Sennæ, and as a demulcent is used in Infusum Lini.

In addition to the official extracts, dried extracts are largely imported from Italy and Spain, known as Liquorice Juice or Spanish Liquorice, that bearing the stamp of Solazzi being most prized. There are also prepared in England, Liquorice Lozenges, known as Pontefract Cakes, and the same substance in sticks about the thickness of a quill known as Pipe Liquorice.

Pulvis Glycyrrhizæ Compositus (*Off.*).

Syn.—Pulvis Liquiritiæ Compositus, P.G., Pulvis Pectoralis (*Kurellæ*).

Senna, in powder Liquorice, in powder	of each ...	2
Fennel, in powder	... ...	1
Sublimed Sulphur ...	... ...	1
White Sugar, in powder	... ...	6

Mix. *Dose.*—30 grains to a drachm or more, mixed with water or milk, taken early in the morning, is a mild and agreeable laxative. For constipation and hepatic disease, it is pleasant to take, and effectual without catharsis.—Pr. viii.276.

Suggested to substitute anise for fennel, and to add one-fourth as much ginger.—L. ii./86,627.

GOKHRU.

Syn.—GOKEROO (*Hindi*).

The fruit of ***Pedalium Murex.*** It is employed in India as a remedy for nocturnal seminal emissions, incontinence of urine, and impotence.—Pr. xvii.381.

The capsule is very prickly, and both it and the seeds are rich in mucilaginous matter.

Infusum Gokhru.

Gokhru Fruit...	1 ounce.
Boiling Distilled Water ...	1 pint.

Macerate 2 hours and strain, pouring over the contents of the strainer water *q.s.* to produce 1 pint, which forms a daily dose, and should be freshly prepared.

The fruit of **Tribulus terrestris,** which somewhat resembles the above, is also known by the name of Gokhru in India.

GOSSYPIUM.

Cotton Wool (*Off.*).

Beside **Pyroxylin,** Gun Cotton (*Off.*)—the following preparations of cotton are in use:—

Gossypium Absorbens, now the *official* **Cotton Wool,** is much employed as a wound-dressing. It is prepared by alternately treating bleached cotton with diluted hydrochloric acid and solution of soda and well washing afterwards. A sheet of this wool between layers of gauze is sold as **Absorbent Gauze and Cotton Wool Tissue**; the same made into **Balls** is recommended for surgical use in place of sponges.—i./83,1003.

Gossypium Acidi Carbolici.—See p. 10.

Gossypium Acidi Salicylici, 4 and 10 per cent. —See Acidum Salicylicum, p. 27.

Gossypium Camphoræ Salicylatæ, 8 per cent. See Camphora Salicylata, p. 92.

Gossypium Iodoformi, 4, 10, and 50 per cent.—See Iodoform, p. 223.

In T.H. the following are recommended for aural affections:—Gossypium Acidi Borici, containing 50 per cent.; Gossypium Acidi Tannici, 33 per cent.; Gossypium Aluminis, 30 per cent.; Gossypium Camphoræ, 33 per cent.; Gossypium Cubebæ; Gossypium Ferri Perchloridi; Gossypium Hamamelidis; Gossypium Iodi; Gossypium Iodoformi, 50 per cent.; Gossypium Krameriæ; Gossypium Opii. Gossypium Menthol, see p. 217.

Gossypium Acidi Tannici is useful in treating ozæna.—Asclepiad. xvii.47.

Tinctura Gossypii Radicis (Squire).

Dried bark of root of cotton plant 1, proof spirit 4.

Dose.—1 drachm 3 times a day as an emmenagogue and parturient.

An infusion is often preferable to ergot in labour.—*L.* ii./84,558.

GRINDELIA.

Gum Plant.

The dried herbs *Grindelia robusta* and *G. squarrosa*—the latter is most commonly used—form the Californian remedy for asthma. In America, this drug has been found very useful in reducing the frequency and violence of the spasmodic attacks which occur in asthma, whooping-cough, and bronchitis.—B.M.J.ii./87,1356.

The involucre, and often the leaves, are coated with a glutinous oleo-resin.

Extractum Grindeliæ (Alcoholic).

Dose.—2 to 3 grains in a pill with lycopodium, three times a day.—R.

Extractum Grindeliæ Liquidum, B.P.C.

1—1 of herb, with S.V.R. as a solvent.

Dose.—10 to 30 minims at the onset of a paroxysm of asthma, and repeated every half-hour or hour, in sweetened water or milk, else the resin separates and sticks to the vessel. Useful for whooping-cough, 10 minims every 2 hours.—P.J. 1878,582.

Useful in whooping-cough and bronchitis, and of singular efficacy in asthma. Doses of half a teaspoonful afforded almost instantaneous relief in several cases occurring in aged persons.—Stillé and Maisch.

The fluid extract is also applied topically in America as a remedy for the poisoning of *Rhus toxicodendron.*

Note on its use in heart diseases, it slows and regulates the pulsations.—Ed M.J.1888,80; Ph.J.1886,919.

Guaiacol.—See p. 158.

GUARANA.

Guarana.

Dose.—10 to 60 grains in powder, or infused in a cup of boiling water.

The seeds of *Paullinia sorbilis,* roasted and moistened with water, made into a hard paste, rolled into cylinders, and dried. Imported from Brazil. The drug contains about 5 per cent. of a crystalline alkaloid **Guaranine,** which is identical with caffeine, together with tannin, gum, &c. Guarana has been particularly recommended for sick-headache. Guaranine may be taken as caffeine. *Dose.*—½ to 5 grains, or more.

Elixir Guaranæ, B.P.C.

Guarana, in No. 60 powder, 4 ounces; Light Magnesia, ½ ounce; Oil of Cinnamon, 6 minims; Syrup, 2 ounces; Proof Spirit, a sufficient quantity.

Mix intimately the powders, and moisten them with three ounces of proof spirit. After twenty-four hours' maceration, mix with eight ounces of coarse sand, and pack in a percolator; pass through proof spirit until sixteen ounces are obtained, then transfer the mass to a press-bag and apply pressure. To the percolate add the syrup and oil of cinnamon, and make up to one pint by addition of the expressed liquid, previously reduced by evaporation if necessary.

Dose.—½ to 2 drachms.

Tinctura Guaranæ. *Dose.*—½ to 1 drachm.

Macerate Guarana 1 ounce, in proof spirit, *q.s.* to produce 4 ounces.

Useful in sick-headache.—B.M.J. i./72,421.

Contains double as much caffeine as tea, and five times as much as coffee; is a nervine tonic.—L. ii./70,581.

For sick - headache, 30 to 60 grains is a certain remedy. Useful also in diarrhœa and dysentery.—L. ii./72,313,507.

HÆMATOXYLUM.

Logwood (*Off.*).

From the unfermented Logwood, the following are prepared :—

Extractum Hæmatoxyli Liquidum, B.P.C.

Unfermented logwood, in No. 16 powder	20 ounces.
Distilled water	6 pints.

Boil the logwood with the water in three successive portions for half-an-hour each ; mix the liquors, strain, and evaporate on a water bath or in vacuo to one pint. Set aside for 4 days and decant from any sediment.

Dose.—½ to 2 drachms. Contains the hæmatoxylin and all the natural astringent properties of the wood unchanged.—P.J. 1887, 285.

Hæmatoxylin. Usually met with in yellowish granular crystals, slowly and sparingly soluble in water, easily soluble in alcohol. Is much used for staining histological specimens.—See p. 396.

HAMAMELIS.

Witch Hazel.

The bark, leaves, and young twigs of *Hamamelis Virginica*, Witch Hazel, or Winter Bloom, imported from the United States of America, possess powerful astringent properties, and are used for checking hæmorrhages and excessive mucous discharges. They form the basis of the American specialties—Pond's Extract, and Hazeline.

Hamamelin. *Syn.*—Hamamelidin.

Dose.—½ to 2 grains in a pill, with mucilage of acacia. It is the powdered extractive from the above of a purplish-brown colour. One grain in a suppository, with cacao butter, is useful in curing piles.

Extractum Hamamelidis Liquidum, B.P.C. and U.S.

Hamamelis Leaves, in No. 40 powder, are percolated with a mixture of Rectified Spirit 1 and Distilled Water 2. The first portion of percolate is set aside, and the other after concentration is mixed with it, so that 1 = 1 of leaves. *Dose.*—2 to 5 minims.

Tinctura Hamamelidis, B.P.C.

Witch Hazel Bark, in No. 40 powder	1 ounce.
Proof Spirit	10 ounces.

Dose.—2 to 5 minims or more.

A tincture imported from America is generally prepared with a slightly stronger spirit.

A valuable hæmostatic, very serviceable in hæmoptysis, hæmorrhoids, menorrhagia, in fact in all passive hæmorrhage, and what is known as the hæmorrhagic diathesis. As an injection for bleeding piles, 1 drachm of the tincture in 3 ounces of cold water should be given as an enema, and retained, at bedtime or before breakfast, every day; or the following ointment applied locally.—R.

A lotion of 1 or 2 drachms with water to an ounce, is a useful application to bruises and small wounds.

Unguentum Hamamelidis.

Liquid Extract of Hamamelis ...	1.
Simple Ointment	9

Mix for use as an ointment for piles.

Witch Hazel plasters are also made in rubber combination for covering varicose veins.

Letters on its uses and chemical constituents.—L. ii./79,303,337,486.

Useful in piles as a lotion 3 or 4 times a day, and a piece of lint dipped in the Hazeline applied to the anus during the intervals.—B.M.J. i./81,965.

Hæmorrhage from bowel, an ounce of hazeline used as a rectal injection with success.—B.M.J. i./85 227.

Menorrhagia is controlled by 1 drachm of hazeline three times a day.—Pr. xxxiii.141.

In menorrhagia, given without obvious advantage.—B.M.J. ii./84,810.

Report of an investigation committee of the Association.—B.M J. i./87,795.

HYDRARGYRUM.

Mercury (*Off.*)

Injectio Hydrargyri Hypodermica.—*Syn.*—**Grey Oil.**

Mercury 3, Lanolin 3, Olive Oil 4.

In Vienna injected hypodermically in doses of 10 to 15 centigrammes for syphilis.—B.M.J. i./88,1296.

Preferable formula:—Mercury 39, Mercurial Ointment, 2, Vaseline Oil, 59.—*Dose.*—1 to 2 grains daily.

Lanolinum Hydrargyri.—See p. 242.

Plaster Mulls of **Mercury** are spread containing 65 per cent. of the metal; also in combination:—**Mercury,** 58 per cent. and **Carbolic Acid,** 20 per cent.; and **Mercury** and **Oxide of Zinc** of each 35 per cent. respectively; likewise containing **Ammoniated Mercury** (White Precipitate) 50 per cent.

Hydrargyri Carbolas. Carbolate of Mercury, Phenol Mercury.—*Dose.*—$\frac{1}{2}$ to 2 grains in divided doses daily. A whitish amorphous powder, obtained by double decomposition of mercuric chloride and an alcoholic solution of carbolic acid in caustic potash. In pills, $\frac{1}{3}$ grain each. *Dose.*—2 to 6 daily.—L. i./87,943; ii./87,277; P.J. 1887,685.

An orange coloured basic salt is also prepared, but the above neutral salt is preferred.

Hydrargyri Cyanidum, Cyanide of Mercury.

Syn.—BICYANIDE OF MERCURY.

Dose.—$\frac{1}{20}$ to $\frac{1}{4}$ grain.

Is in anhydrous, white or colourless, prismatic crystals, soluble 1 in 8 of water. It is not decomposed by alkalies; is poisonous, and has a nauseous metallic taste. It is used as a lotion to syphilitic sores, and given in pills of $\frac{1}{10}$ or $\frac{1}{12}$ grain twice daily. Used in diphtheria. $\frac{1}{250}$ grain frequently, with $\frac{1}{3}$ minim Tincture of Aconite, in honey, using also a gargle, 1 in 10,000.—L. i./88,591, 1063.

Mercuro-Zinc Cyanide, a white powder obtained by precipitation from a solution of the cyanides of mercury and potassium by means of sulphate of zinc, is recommended by Sir Joseph Lister, as an unirritating antiseptic, and to impregnate gauze, also to form ointments for eczema and other skin affections, in place of oxide of zinc. Chemically, it is not a definite double cyanide.—P.J. 1890,653; L. i./90,415, B.M.J. i./90,441.

Mercuro-Zinc Cyanide Gauze. In 6-yard pieces. Is impregnated with between 2 and 3 per cent. of its weight of the above, and tinted with a slightly ammoniacal solution of hæmatoxylin. Before use it is damped with sublimate solution, 1 in 4,000.—L. ii./89,943;

i./90,1; B.M.J. ii./89,1028; i./90.1; P.J. 1889.389. Use in hepatic abscess.—B.M.J. i./90.61.

Hydrargyri Iodidum Rubrum (*Off.*), Red Iodide of Mercury, Mercuric Iodide. *Dose.*—$\frac{1}{32}$ to $\frac{1}{8}$ grain. Soluble in solutions of other iodides, forming double salts; also 1 in 25 of castor oil; or 100 parts of the latter will dissolve 8 of this iodide with 5 of perchloride of mercury. —P.J. 1885.327; B.M.J. i./87,789. Is a powerful antiseptic.—B.M.J. ii./87,78; L. ii./87,1163.

Given internally acts as an emmenagogue.—L. i./87, 250. In solution with sodic chloride is valuable as an injection for gonorrhœa,—B.M.J. ii./87,754; and as a pigment for throat in scarlatina and diphtheria.—B.M.J. ii./87,508,613,754. Also as spray.—B.M.J. ii.89,1276.

Injectio Hydrargyri Iodidi Rubri Hypodermica.—(Ragazzoni). *Dose.*—2 to 6 minims. Mercuric Iodide, 1 grain, Sodium Iodide, *q.s.*, Water to 64 minims.

Liquor Arsenii et Hydrargyri Iodidi.—See p. 63.

Pilula Arsenii et Hydrargyri Iodidi. *Dose.*—1 or 2, two or three times a day.

Iodide of Arsenium, Red Iodide of Mercury, of each 1 grain, Distilled Water *q.s.* to dissolve. Sugar *q.s.* to make 12 two-grain pills. May be combined with 2 grains of Iodide of Iron pill.

Hydrargyri et Potassii Iodidum, Potassio-Mercuric Iodide.

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain, in pill or mixture.

In yellow crystalline prisms; has been administered for syphilis. Is formed in solution when the perchloride is given in excess of solution of iodide of potassium. As antiseptic douche or lotion, 1 in 3,000 to 8,000 of water.

Pilula Hydrargyri Iodidi Rubri ($\frac{1}{4}$ gr.) et Potassii Iodidi (4 gr.).

Dose.—1, two or three times a day.

Hydrargyri Iodidum Viride. (**B.P.** 1867.)

Green Iodide of Mercury, Mercurous Iodide.

Dose.—$\frac{1}{6}$ to 1 grain in pill.

This salt, though not now official, is the one most largely prescribed for syphilis. It should be freshly prepared, and kept from the light.—B.M.J. i./87,455.

Hydrargyri Oleatum.—See p. 273.

Hydrargyri Perchloridum (*Off.*) ; **Hydrargyri Chloridum Corrosivum, U.S.**; Corrosive Sublimate. *Dose.*—$\frac{1}{16}$ or less, to $\frac{1}{8}$, increased to $\frac{1}{4}$ grain.

The official preparations are Lotio Hydrargyri Flava (18 grains to lime water 10 ounces), and Liquor Hydrargyri Perchloridi, which has Perchloride of Mercury and Chloride of Ammonium of each 1 grain in 2 ounces.*

The researches of Koch and others having proved this corrosive poison to be the most powerful antiseptic, solutions of it have of late been much used as surgical dressings; it is soluble 1 in 16 of water, 1 in 4 of rectified spirit, 2 in 3 of glycerine by weight, dissolved without heat; heat reduces the salt to calomel (?). A solution 1 in 1,000 of water, or preferably an equivalent quantity of the **Glycerine Solution** (Sublimate, 2; Glycerine by weight, 3) one fluid drachm, which contains 40 grains of the sublimate, to 4 pints, is recommended as a lotion. —B.M.J. i./84,1018. As dressings, lint, absorbent wool, gauze, or **Wood Wool** (*see* p. 313) may be impregnated with $\frac{1}{2}$ per cent. of each, corrosive sublimate and glycerine.—L. i./84,346; B.M.J. i./84,364; B.M.J. ii./84,803; L. ii./84,723,740,801,899.

Ophthalmic discs contain $\frac{1}{100,000}$ grain **Perchloride of Mercury** combined with gelatine.

Sublimate Lotiforms consist of absorbent wool, charged with sublimate, enclosed in muslin, and coloured with magenta. One in a pint of water forms a lotion of 1 in 5,000. These are less liable to cause poisoning by carelessness than the following preparations.

The writer has shown this is not a mere solution of the Perchloride; a double salt is formed, ammonio-mercuric chloride or *Sal Alembroth*, with an excess of chloride of ammonium present. The solution, if prepared with common water (containing carbonate of lime) in place of distilled, or if even diluted with common water, lets fall a white precipitate, if diluted much scarcely a trace of mercury is left in solution. It is better to use a simple solution of the Perchloride of the same strength, in common or distilled water it forms a stable solution.—P.J. 1870,544. **Van Swieten's Solution** (Codex) consists of one part of perchloride of mercury in 900 of water and 100 of alcohol; the B.P. *Liquor* was intended to supplant this. Exposure to sunlight reduces a solution of sublimate. Acidulating with hydrochloric or tartaric acid is said to prevent the precipitation of insoluble albuminate of mercury, and thus to increase and render its antiseptic power continuous.—B.M.J. i./88,148; P.J. 1889,841.

Sublimate Pastils are made of two sizes, combined with sodium chloride, and coloured blue. They are convenient for surgical purposes, the larger making 20 ounces, and the smaller 10 ounces of lotion, 1 in 500. This should be further diluted with three or more parts of warm water before use.

For eye lotion, 1 grain in 8 ounces.—R.O.H.

For gonorrhœa and gleet, 1 to 2 gr. in 8 ounces recommended.—Edin.Med.Jour. 1884,756; M.P.C. i./84,194.

For ear discharges, syringing with 1 in 10,000 is antiseptic.—Edin.Med.Jour.1884,665. This solution is recommended as a pigment in diphtheria.—M.P.C. i./84,340.

Summary of antiseptic uses.—1 in 10,000 destroys micrococci and bacilli, 1 in 1,000 destroys their spores; this may therefore be used for infected linen, the walls and floors of infected rooms, the hands of surgeons and gynæcologists, and as a lotion to superficial wounds. For continuous applications, 1 in 10,000 forms an active lotion, and 1 in 500, with the same quantity of permanganate of potassium, is an efficient disinfector of an equal bulk of liquid fæcal infected discharges, if in contact not less than two hours.—L. i./85,721.

Risk of poisonous effects from vaginal injections of 1 in 1,000; notice the occurrence of diarrhœa.—B.M.J. ii./86,64; L. ii./86,1131; Pr. xl. 286.

Five cases of salivation by washing out vagina with 1 in 3,000 lotion.—L. i./85,677.

Tinea destroyed by solution of 3 grains in an ounce of spirit of nitrous ether.—B.M.J. i./85,434.

In bronchitis with offensive expectoration, $\frac{1}{6}$ grain to 3 ounces of water useful as a spray inhalation.—Pr. xxxiii.731. Successful in phthisis.—L. ii./88,110.

Poisoning by 100 grains, recovery under treatment with emetics and white of egg.—B.M.J. ii./88,720.

Dysentery in India, 5 minims of liquor every four hours given with success.—L. ii./89,901.

Mercuric Bactericide. A specialty sold under this name as an antiseptic germicide contains 5 per cent. of Perchloride of Mercury in water with 5 volumes of Peroxide of Hydrogen.

Sal Alembroth. *Syn.*—**Ammonio - Mercuric Chloride, Double Chloride of Mercury and Ammonium.**

Contains one molecule of the sublimate combined with two of ammonium chloride, and may be made by mixing solutions of molecular quantities (271 of the former, 107 of the latter), and evaporating; 3 grains contain 2 grains of sublimate. Is in flattened rhombic prisms, soluble in less than its own weight of water. Possesses powerful antiseptic properties, but does not combine with albumen so quickly as the pure sublimate, and therefore is not so irritating to animal tissues. Used to prepare

Alembroth Gauze. In 6-yard pieces; contains 1 per cent. of Sal Alembroth, and is tinted with aniline blue. This is generally damped with carbolic lotion, 1 in 40, before application as a dressing.

Alembroth Wool, contains 2 per cent. Tinted blue.

Alembroth Gauze and Cotton Wool Tissue, contains 2 per cent. Tinted blue. Specially useful for eye cases.

Eucalembroth Gauze. In 6-yard pieces. Each contains 4 drachms eucalyptus oil, with castor oil, and $\frac{1}{1000}$ of its weight of Sal Alembroth. Tinted with magenta.

Sal Alembroth useful as an intramuscular injection for syphilis; $\frac{1}{3}$ grain in 10 minims of water injected into buttocks once or twice a week, then less frequently. --Pr. xli.,60; L. i./88,826.

Hydrargyri Salicylas.—*Dose.*—$\frac{1}{4}$ grain. A white powder, slightly soluble in water. Given as an antisyphilitic, and used as a dusting powder or ointment for specific sores. Should not be given in large doses with iodide of potassium. — L. i./89,396; Th. Gaz. April, 1889,225, June,391; Y.B. 1890,214.

Hydrargyri Succinimidum, Succinimide or Imido-succinate of Mercury.

A white silky powder, freely soluble in water; does not precipitate albumen or fluids of pleuritic effusion or hydrocele. Recommended as a hypodermic injection in syphilis, in 2 per cent. solution (=1 per cent. of mercury.) Addition of cocaine to diminish pain should not exceed 1 per cent., or precipitation takes place. Is said to preclude the formation of abscesses; is comparatively painless, and does not prevent patients following their vocation. — L. ii./88,734; P.J. 1888,347; Th. Gaz. Nov. 1888,758.

Hydrargyri Tannas, Tannate of Mercury; Mercurous Tannate.

Dose.—1½ gr. in a pill with syrup and tragacanth. Should it cause diarrhœa in weakly patients add $\frac{3}{4}$ grain of tannic acid to each, or $\frac{1}{12}$ grain of powdered opium.

This was introduced as a remedy for syphilis by Lustgarten of Vienna; is in dark green, odourless and tasteless powder or scales, containing 50 per cent. of mercury. It is not soluble without decomposition, and not materially affected by diluted hydrochloric acid, but easily so by alkalies and their carbonates, separating a magma containing very minute particles of mercury. It is thought that under the influence of the alkaline intestinal juice mercury is thus absorbed through the membrane of the intestines in the same manner as when rubbed into the skin. When taken internally a rapid introduction of mercury into circulation has been observed, it being always found in the urine 24 hours after; yet all disagreeable symptoms so often accompanying the use of mercurials are absent, while the results obtained in various stages of syphilis have been so rapid and favourable as to safely place it by the side of the best mercurials—the ointment included.—L. i./84,723; P.J. 1884,777; B.M.J. i./87,456.

Unguentum Hydrargyri Oxidi Flavi.

Syn.—PAGENSTECHER'S OINTMENT.

Yellow Oxide of Mercury	30 grains.
Vaseline	1 ounce.

Used for inflamed eyelids, &c. It is more frequently employed one-fourth this strength in England.

Injections of 2 grains yellow oxide of mercury suspended in liquid paraffin useful in syphilis.—L.ii./89,757.

Hydrargyri Naphtholacetas. Mercur-β-Naphthol Acetate.

Dose.—½ to 1 grain.

An amorphous odourless white powder, insoluble in the usual solvents, melting to a green oily liquid. Diluted with kieselguhr, or in gauze or salvemull, or triturated with fresh albumen and diluted with water;

is useful to promote healing of wounds; it is also a mild antisyphilitic.

Hydrargyri Thymolacetas, Mercury Thymol Acetate. A white microcrystalline powder, soluble in dilute alcohol, insoluble in water. Has been used successfully in syphilis as an intra-muscular injection, 1 in 10 of liquid paraffin, also in pills, in doses of ¾ to 1½ grains.—P.J. 1888,427; 1889,607, 341.

Injections of insoluble mercurials sometimes followed by intestinal disturbances and dysenteric conditions, cough, cyanosis, and back pains.—B.M.J. ii./89,1062.

HYDRASTIS.

Golden Seal, U.S. *Syn.*—Yellow Root, Yellow Puccoon, Orange Root, Indian Dye, Indian Turmeric.

Dose.—10 to 30 grains.

The rhizome with the rootlets of *Hydrastis Canadensis.* The rhizome is about 1½ in. long by ¼ in. thick, externally yellowish-grey, fracture short, waxy, with bright reddish-yellow colour, has slight odour and bitter taste. It possesses tonic stomachic properties, is used in intermittent fevers, and causes uterine contraction. It contains a quantity of berberine (see below), and the alkaloid hydrastine.

Extractum Hydrastis Fluidum, U.S.; B.P.C. as Extractum Hydrastis Liquidum.

Prepared as Extractum Hamamelidis Liquidum, using proof spirit.

Dose.—5 to 30 minims; 1 = 1 of root.

Hydrastina, Hydrastine (an alkaloid).

Dose.—½ to 5 grains, in pill with glycerine of tragacanth, or acidulated solution.

In white prismatic crystals resembling strychnine in appearance, insoluble in water but soluble in alcohol, chloroform, and ether, taste very bitter. Used in fever cases, especially in typhus.

Has been found to produce uterine action and induce abortion, without danger to mother, injected hypodermically.—L. i./86,991.

Hydrastinæ Hydrochloras.

Dose.—½ to 6 grains.

A crystalline soluble salt; is used in fevers, like the pure alkaloid. **Hydrastinine,** a white crystalline oxidation product of Hydrastine, forms salts, of which **Hydrastininæ Hydrochloras** has been used for internal hæmorrhage hypodermically, in dose of ½ to 1½ grains. Said to be useful in menorrhagia and dysmenorrhœa.

Hydrastin.—Eclectic Remedy.

Dose.—2 to 6 grains, in a pill with glycerine of tragacanth and powdered acacia.

Consists principally of Hydrochlorate of Berberine, with extractive; has a bright yellow colour, and is aperient, cholagogue, stomachic, and tonic; is also used as a dressing to ulcers, acting as an antiseptic. Likewise much used in amenorrhœa, also in gonorrhœa and leucorrhœa.

A tonic and moderately powerful biliary and intestinal stimulant.—Pr. xxiii.337; B.M.J. ii./78,31.

Therapeutic study of its uses: 3 to 6 grains in a pill, followed by effervescing sulphate of sodium, is a useful biliary stimulant.—B.M.J. ii./80,746; Pr. xxvi.121.

In eczema, 5 to 20 grains to an ounce of lard has proved of service.—L. ii./85,87.

Tinctura Hydrastis, B.P.C. *Dose.*—20 to 60 minims.

Hydrastis, in No. 40 powder, 1 to 10 of Proof Spirit.

In gastric catarrh from chronic alcoholism is about the best substitute for the stimulant when this is abandoned. Useful in atonic dyspepsia, habitual constipation due to inaction of the liver, and in general debility it is very efficacious, its action being not unlike that of quinine. It is also employed as an injection for gonorrhœa, 2 drachms to a pint of water used very frequently at first. As a lotion it is employed in chronic inflammation of the mucous membranes, also for cracks and fissures of the nipple.—B.M.J. ii./80,746.

Uterine hæmorrhage from various causes—50 cases treated with fluid extract of hydrastis, 20 drops three times a day, results in two-thirds of the cases very satisfactory.—L. ii./84,208; i./87,391.

Relieves gastric catarrh.—L. ii./86.31.

Has a notable effect in soothing uterine and ovarian pain, and checking uterine hæmorrhage.—L. i./88,868; Ed.M.J.1886,176; 1887,747.

Useful in fibroid tumours; does not cause painful contractions.—B.M.J. ii./88,123.

Local use of hydrastis invariably successful in chronic pharyngitis.—L. i./89,549; Th. Gaz., Feb. 1889,123.

Checks profuse menstruation.—L. ii./88,133; i./89, 42.

Relieves painful menstruation.—L. ii./89,811; B.M.J. ii./89,1063.

Berberina, Berberine. *Dose.*—2 to 5 grains.

Although contained in hydrastis and calumba, is obtained principally from the bark of *Berberis vulgaris* and other species of Barberry. It is in bitter, orange yellow, acicular crystals, insoluble in water. It forms with chloroform, ether, and alcohol, crystalline compounds. Its salts, the **Hydrochlorate, Phosphate,** and **Sulphate,** are bright yellow in colour, and soluble in water, the hydrochlorate about 1 in 400, the phosphate 1 in 12, and the sulphate 1 in 150. *Dose* of each.—2 to 6 grains. Given for indigestion, diarrhœa, malaria, and sickness in pregnancy.

HYDROGENII PEROXIDUM.

Hydrogen, Peroxide of. *Syn.*—Hydroxyl, in Aqueous Solution.

Dose.—$\frac{1}{2}$ to 2 drachms.

Solution of Peroxide of Hydrogen may be prepared by adding gradually, hydrated peroxide of barium to diluted sulphuric acid, filtering out the sulphate of barium, and neutralising the liquid with baryta water; on again filtering, a nearly pure solution of Hydroxyl is obtained. A less pure solution may be made by passing CO_2 through water containing, in suspension, hydrated peroxide of barium, and filtering out the carbonate. It is made for medical purposes to contain ten volumes of available oxygen when decomposed—*i.e.*, 1 c.c. will evolve 10 c.c. of oxygen, or 1·45 per cent. of its weight, = 3·04 per cent. of H_2O_2. It is also made commercially two and three times this strength. Peroxide of Hydrogen is produced naturally in many ways, as by the rapid oxidation of some essential oils, oil of turpentine, oil of eucalyptus, &c. It forms the active ingredient in the disinfectant known as Sanitas (see p. 312). The solution possesses disinfecting and bleaching properties (is much used for bleaching ladies' hair to the fashionable colour), has a harsh, bitter taste, is odourless, or nearly so. It has the second atom of oxygen in a very loose state of combination. It readily decomposes, especially in contact with a metallic oxide, such as that of silver or manganese, these if moist, and freshly precipitated, cause oxygen to be briskly evolved from it. Ether restrains this decomposition, and this fact is made use of for the production of

Ozonic Ether.

Dose.—½ to 1 drachm.

Ether containing in solution peroxide of hydrogen of 30-volume strength with some alcohol. It is miscible with water, possesses properties similar to the above, and is more stable. In conjunction with tincture of guaiacum, it is employed as a test for blood; it changes the colour of the blood to blue; but does the same to gluten, casein, &c. Peroxide of Hydrogen and Ozonic Ether have been given internally for diabetes and whooping-cough, and Ozonic Ether used locally for scarlet fever.

Statement of the chemistry and properties of Peroxide of Hydrogen, advises its trial in diabetes and fever, as an antidote to the alkaloids and as an application to foul sores. —L. ii./60,390.

Pigment in diphtheria.—Th.Gaz.1888,199; Pr. xl.454.

Of great value as a deodoriser.—M.T.G. ii./75,449.

Promotes glandular secretion, useful in diabetes and dyspnœa; suggests trial in epilepsy.—M.T.G. i./71,162.

Lecture suggesting its medical uses in diabetes, rheumatism, cardiac disease, and struma.—M.T.G. ii./68,661.

Its use in albuminuria following scarlatina, pregnancy, and pneumonia.—B.M.J. i./81,575.

Ozonic Ether, in half-drachm doses, 3 times a day, cured cases of diabetes; it oxidises the sugar.—L. i./68, 45; L. ii./68,526; M.T.G. ii./68,680.

For purulent discharges, is a local astringent and antiseptic, colourless, odourless, painless, does not stain and is not poisonous.—Pr. xxxii.196.

Hydrogen peroxide injected assists cure of necrosis of jaw.—L. ii./89,660.

Antiseptic Ointment of Ozonic Ether (Day).

Ozonic Ether	4 drachms.
Lard	4 ounces.
Benzoic Acid	20 grains.
Otto of Roses	4 drops.

Mix without heat. Used for inunction over the whole surface of the body three times a day for about three weeks, with success to prevent spreading of scarlet fever in a number of cases, and ½ an ounce of the ether to a pint of water, used as a gargle or given as a mixture in frequent doses.—M.T.G. i./77,256.

Oxygen and **Oxygen Water.**

Are much used in Paris medically. The oxygen is obtained from atmospheric air by first dehydrating and decarbonising it with quicklime; the oxygen is then separated from the nitrogen by being absorbed by caustic baryta exposed under pressure to a high temperature; the peroxide of barium formed yields pure oxygen on being heated at a lower temperature; it is used medically to inhale pure, or water aërated with it supplied in syphons or bottles, is drunk as an exhilarating beverage, and as a remedy for dyspepsia, diabetes, &c.

Their use in nervous diseases, tetanus, hydrophobia, exophthalmic goitre, eclampsia.—Pr. xxxvi. 53; B.M.J. i./87,740.

Ethereal Oxygen for inhalation.

Put Ozonic Ether, 2 ounces, in a Wolff's bottle, with an inhaling mouthpiece attached to one mouth, add by the other aperture 8 grains of Permanganate of Potassium, dissolved in 1 ounce of water. As the liquids mix oxygen and ether vapour are given off, and may be inhaled for whooping-cough, asthma, phthisis, &c.—Asclepiad, Feb., 1887.

HYDROQUINONE.

Syns.—Quinol, Hydrochinon (German).

Dose.—½ to 5 grains.

An isomeride of Resorcin and Pyrocatechin. May be prepared from quinic acid by dry distillation, but is principally obtained as a derivative of coal tar. It is neutral, inodorous, has a sweetish taste, soluble 1 in 20 of water, soluble also in alcohol and ether, and slightly so in olive oil. It possesses stronger antiseptic and antipyretic properties than Resorcin. Gramme doses cause symptoms of excitement like Resorcin. It causes no local irritation injected hypodermically, is particularly suitable as an antiseptic in eye operations, useful also in infectious parasitic corneal ulcers, lessens the secretions, dose not irritate the conjunctiva or cornea, and has a certain antiseptic action on the diphtheritic process. Like carbolic acid as an antifermentative, and boric acid in the little irritation it causes.—L. i./82,78.

Hydroquinone, Pyrocatechin and Resorcin are used as photographic developing agents.

Notes on its effects on urea and urine.—L. i./87,792.

More certain in action, and better adapted for repeated administration than resorcin; doses of ½ grain repeated at intervals, most satisfactory as an antipyretic. —B.M.J. ii./88,975.

HYOSCINA.

Hyoscine.

A white crystalline (?) alkaloid, isomeric with hyoscyamine, obtained from *Hyoscyamus niger*, is also contained in *Duboisia myoporoides*. It appears to be the active therapeutic agent in the amorphous hyoscyamine of commerce. Only its salts are used medicinally.—See Atropine, p. 65.

Hyoscinæ Hydrobromas. In large white prismatic crystals, freely soluble in water. *Dose.*—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

Injectio Hyoscinæ Hypodermica. 1 grain in 200 minims.

Dose.—1 to 2 minims.

Liquor Hyoscinæ Hydrobromatis, 1 in 1,000 of chloroform water. *Dose.*—3 to 15 minims.

Pilula Hyoscinæ Hydrobromatis, $\frac{1}{200}$ and $\frac{1}{100}$ grain in each.

Hyoscinæ Hydrochloras. In large crystals, similar to the hydrobromate.

Dose.—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

Hyoscinæ Hydriodas. In large whitish crystals, with properties like above. *Dose.*—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

Hypodermic Lamels of Hyoscine contain $\frac{1}{200}$ grain in each, combined with gelatine.

Ophthalmic Discs contain $\frac{1}{500}$ grain similarly combined.

Hyoscine is a powerful narcotic, especially useful in cases of insomnia, in calming excitement and delirium, and producing sleep in acute mania. It is said to have no influence on the respiration, but to increase the action of the heart and circulation. Locally applied it produces rapid, energetic, but brief mydriasis; should be avoided in acute glaucoma.

Physiological and therapeutical action, and uses in cases of insanity and insomnia.—Th. Gaz. 1885, Jan. Feb. and Oct.

A solution of 1 in 200 is a powerful mydriatic where continued dilatation is required.—L. ii./86,1065.

Three cases of acute mania; is the best calmative, relieves motor spasm, lessens saliva and perspiration; requires caution, $\frac{1}{100}$ grain has caused toxic symptoms.—L. i./88,218; Th. Gaz. March, 1888,173.

As a cerebral sedative, $\frac{1}{200}$ to $\frac{1}{100}$ grain of the hydriodate hypodermically is excellent.—Pr. xxxvii.321; L. i./87,1186; B.M.J. i./87,1102.

Experiments on dogs, B.M.J. ii./87,216.

Case of recovery after taking four-fifths of a grain.—Th. Gaz. Dec. 1887,810.

In ophthalmic use it may cause dangerous symptoms.—L. ii./86,1054.

Successful in delirium tremens, insomnia, and maniacal excitement. Pilocarpine or caffeine indicated if unpleasant symptoms occur.—B.M.J. ii./88,75; L. ii./89, 875.

Must not be confused with hyoscyamine.—B.M.J. ii./88,421,667,691,736.

A safe, rapid, and certain cerebral sedative, rarely attended by unpleasant results.—B.M.J. i./89,942; L. ii./89,736.

Should not be given where there is cardiac disease.—L. i./89,42.

Serious symptoms may follow dose of $\frac{1}{100}$ grain.—Pr. xlii.127; Th. Gaz. Dec. 1888,862; Feb. 1889,94, 95; May, 358; June, 386; Dec. 862.

HYOSCYAMINA.

Hyoscyamine.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, in cases of mania increased to $\frac{1}{16}$ or $\frac{1}{8}$ grain or more, dissolved in water by means of diluted sulphuric acid, or in a pill.

An alkaloid first obtained from *Hyoscyamus niger*, but is also contained in *Atropa Belladonna*, *Datura Stramonium*, *Scopola Carniolica*, *S. Japonica*, and probably other atropaceous plants. It is an isomer of atropine (into which it can be converted,) as well as of hyoscine. (See pp. 65, 214.) It is in light snow-white masses of minute crystals, without odour, soluble 1 in 120 of water, freely soluble in spirit, and alkaline to test-papers, melting at 115°—116° C. As a mydriatic, it acts like atropine, but with greater intensity, while the duration of effect is about equal (P.J. 1876, 471). In addition to the crystallized alkaloid, there is in commerce

Hyoscyamine, Amorphous, or Uncrystallized Hyoscyamine.

Dose.—$\frac{1}{16}$ to $\frac{1}{8}$ grain, increased, given in acute mania.

A dark brown extract-like preparation, having a strong, disagreeable odour. It is much less costly than the crystals, and the dose should be about the same.

According to Kobert this owes its activity principally to the Hyoscine it contains.—Pr. xxxvii.321.

Hyoscyaminæ Sulphas, Hyoscyamine Sulphate, U.S.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, increased.

In small white granular crystals, freely soluble in water.

The **Sulphate** and **Hydrobromate** of **Amorphous Hyoscyamine**, in whitish deliquescent powder, are cheaper preparations.

Injectio Hyoscyaminæ Hypodermica.

Sulphate of Hyoscyamine ...	1 grain.
Distilled Water	2 drachms.

Dose.—1 to 4 minims.

Hypodermic Lamels of Hyoscyamine contain $\frac{1}{50}$ grain, combined with gelatine.

Ophthalmic Discs contain $\frac{1}{5000}$ grain similarly combined.

Pills and **Granules** of **Hyoscyamine** containing half a milligramme ($\frac{1}{130}$ grain) are used for sea sickness. Dose, one every hour while required.

Relieves pain of neuralgia, has cured mercurial tremor, senile trembling, and paralysis agitans.—M.T.G. ii./72, 605.

Violence in mania is controlled by 1-grain doses of the Amorphous Hyoscyamine.—Pr. xvii.7.

In chorea $\frac{1}{40}$ grain, increased to $\frac{1}{3}$, of the amorphous alkaloid, given twice a day, is effective in chronic cases.—Pr. xvii.291.

In acute mania, 1 grain of crystallized alkaloid produced sleep.—Pr. xviii.166.

In acute mania, a solution of the amorphous alkaloid, half a grain in an ounce, was used, and $\frac{1}{8}$ to $\frac{3}{8}$ grain, with dose increased, was given, well diluted with water, with good result.—Pr. xx.85.

In paralysis agitans, puerperal mania, delirium tremens, crystallized alkaloid is given in $\frac{1}{30}$-grain doses.—Pr. xxvi.124.

Resemblance to atropine in action. $\frac{1}{120}$ to $\frac{1}{40}$ grain injected hypodermically.—L. ii./76,319.

Crystallized alkaloid in dose of $\frac{1}{40}$ grain injected hypodermically produced delirium in patient addicted to morphine injections.—L. i./79,474.

In most cases of mania the amorphous alkaloid is a "chemical restraint," produces sleep in acute mania, diminishes number of attacks in epileptic mania, mind becomes clear in delusional insanity, and in chronic dementia the patient improves under small doses. Dose, $\frac{1}{10}$ to $\frac{1}{4}$ grain of the amorphous alkaloid.—L. ii./79,462, 502,540.

Use as a hypnotic and antispasmodic. Distinct effects from $\frac{1}{100}$-grain doses. Dose recommended of the amorphous alkaloid $\frac{1}{20}$ to 1 grain, of crystals $\frac{1}{100}$ to $\frac{1}{25}$ grain.—B.M.J. i./80,629; M.R. 1880,314.

Amorphous or Extractive Hyoscyamine is useful in maniacal excitement in dose of $\frac{1}{3}$ grain, increased, if necessary, to 1 grain. Sends the patient to sleep in half an hour or less.—Pr. xxvii.367; Pr. xxxii.302; Pr. xxxiii.46.

When used hypodermically, is most valuable in calming the violence of a furious maniac, or a noisy, general paralytic.—B.M.J. ii./82,1031; i./83,9; L. ii./84,273.

In delirium tremens, quarter of a grain every six hours found useful.—B.M.J. i./85,285.

Use in mania, $\frac{1}{10}$ grain given three times a day, increased to $\frac{1}{8}$ or $\frac{1}{4}$ grain as single doses, requires care.—B.M.J. ii./85,629.

Toxic symptoms following use.—B.M.J. ii./88,421, 667.

Hypnone.—See p. 116.

ICHTHYOL.

Syn.—SULPHO-ICHTHYOLATE OF AMMONIUM. *Dose.*—10 to 30 grains per diem.

A viscous, brownish, almost black substance, with a disagreeable tarry benzene odour, containing about 15 per cent. of sulphur; is obtained by treating the products of distillation of a bituminous quartz found in the Tyrol with sulphuric acid and neutralizing with ammonia. Many remains of fish and other animals are found in the strata whence this quartz is obtained. The deposit is probably the remains of decomposed animals and fish, hence its name—Ichthyol. The ammonia combination is distinctively known as **Ichthyol**, but sulpho-ichthyolates of similar consistence and appearance are also prepared with Lithium, Sodium, and Zinc, and known as

Lithii Sulpho-ichthyolas. *Dose.*—10 to 30 grains per diem.

Sodii Sulpho-ichthyolas. *Dose.*—10 to 30 grains per diem.

Zinci Sulpho-ichthyolas: Principally for external use.

They are miscible with water, glycerine, fats, oils, vaseline, and lanolin, and may be combined with preparations of lead and mercury without the formation of sulphides. They form valuable applications for chronic skin diseases, as eczema, psoriasis, acne, and favus; as an embrocation, they relieve the pains of chronic rheumatism.—L.ii./83,120; ii./87,1136; B.M.J.i./87,800

Capsules of Ammonium-Ichthyol and Lithium-Ichthyol, 0·25 gramme (4 grains). *Dose.*—1 or 2.

Collodion 7 parts, with Ichthyol 1 part, is used for eczema and other skin diseases.

Pills of Lithium-, and of Sodium-Ichthyol, 1½ grains respectively.—*Dose* of each, 4 to 12 daily.

Plaster of **Lithium-Ichthyol** is used for application to small wounds.

Solutions of **Ammonium-Ichthyol** in a mixture of equal parts of alcohol and ether contain 10 or 30 per cent.

Unguentum Ichthyol may be made to contain from 20 to 50 per cent. with lanolin or with olive oil and lard.

Ichthyol is used internally in cases of eczema depending on nervous lesions, in neuralgia, catarrh, chronic rheumatism, lepra, and constipation.

Summary of its uses.—L. ii./87,1136.

Valuable externally for treating acne, eczema, and lichen.—B.M.J. i./87,800.

Ointments made with 50 and 66 per cent. of this drug, combined with ammonia, are recommended for psoriasis externally in weak constitutions, very sensitive skins, or when these have been affected by stronger remedies.—L. ii./85,577.

Successfully used for acute and chronic rheumatism; it relieves the pain but not the swelling.—L. ii./86,645.

For prurigo senilis use a 30 per cent. solution (emulsion with water), for pruritis, burns, and ulcers a 10 per cent. solution, and internally 2-ounce doses of a 1 per cent. solution for gastric catarrh.—B.M.J. i./86,164; Th.Gaz. April 1888,273.

Successful use in eczema, erysipelas, and boils.—L. ii./88, 341; B.M.J. i./89,526; Y.B. 1890,305.

Thiol. *Dose* (of dry) 2 to 10 grains, in pills.

A mixture of sulphonised hydrocarbons, prepared by heating gas oil, obtained in the distillation of coal, with sulphur. Occurs in two forms, (1) in dry black laminæ or scales; and (2) **Thiol Liquidum**, a syrupy liquid containing about 40 per cent. of the latter. Thiol is soluble in water, alcohol, and ether; but is precipitated on addition of acids. It is very similar in composition and properties to ichthyol, and is recommended in eczema, intertrigo, erysipelas, burns, etc.—L. i./89,1003; P.J. 1888,507; Th. Gaz. March, 1889,216. Ointment of Thiol Liquidum, 1 in 8, and dusting powder, Thiol, dry, 1, Starch 1, Oxide of Zinc 2, Talc 16, have been used *vice* ichthyol.—Y.B. 1890,305.

INGLUVIN.

Dose.—5 to 10 grains.

A special American preparation, said to be prepared from the gizzard of the domestic fowl, *Pullus Gallinaceus.* Recommended as a substitute for pepsin, and for the cure of obstinate vomiting, especially the vomiting of pregnancy.

Experiments showing that Ingluvin had little or no digestive action on coagulated egg-albumen.—Pr. xxiv.192.

INULA.

Elecampane.

From the root of *Inula Helenium,* which is rich in INULIN, a peculiar body allied to starch, is obtained a crystalline camphor or stearoptene :—

Helenin.

Dose.—$\frac{1}{3}$ to 2 grains.

Is in light white acicular crystals, like sulphate of quinine in appearance; has a faint odour and aromatic taste; melts at 162° F.; is insoluble in water, but freely soluble in alcohol. According to Kallen (mentioned in Pharmacographia), it can be separated into two distinct crystalline bodies—one he names true Helenin and the other Alant Camphor. The crude Helenin is a powerful antiseptic; arrests putrefaction 1 in 10,000. In Spain, it has been much used as a surgical dressing. Ferran says it is more destructive to the cholera bacillus than any other agent. It is useful in ozæna—keeps away insects, especially mosquitos. Internally used with success in malarial fevers, tubercular, infantile, and catarrhal diarrhœa. It is somewhat costly.—L. i./85,673; P.J. 1885,890. Useful to diminish secretion, especially of the lungs; recommended for bronchitis.—Pr. xxxiv.57.

An oily solution has been found useful as a paint in diphtheria.—P.J. 1886,919; L. i./86,709.

In chorea, bronchitis, and spasmodic cough, used with success.—P.J. 1887,801.

IODOFORMUM.

Iodoform (*Off.*).

Dose.—$\frac{1}{2}$ to 3 grains or more gradually increased.

Prepared by the action of iodine on a hot solution of carbonate of sodium or potassium in diluted alcohol, or by the action of chlorinated soda on acetone in the presence of an iodide.—*Nouv. Rém.* Nov. 1889,572. It is in shining yellow hexagonal crystalline scales, having a persistent disagreeable odour resembling that of saffron. Soluble 1 in 8 of absolute ether, 1 in 10 of ether (Sp. Gr. 0·735), 1 in 12 of chloroform, 1 in 80 of rectified spirit, 1 in 14 of oil of eucalyptus, 1 in 10 of collodion, 1 in 60 of vaseline and oil of almonds, and about the same in fats and other fixed oils. It is insoluble in water.

Iodoformi Pulvis, as sold, is in reality in very minute crystals. It is preferred for surgical purposes, as it does not clot, but can be dredged on the diseased part.

Iodoformum Præcipitatum, or precipitated Iodoform, is a primrose yellow coloured impalpable powder. It has a slight tendency to form clots. It is used for dusting on sores.

Iodoform possesses powerful antiseptic as well as slight anæsthetic or sedative properties. It is most poisonous to the virus of syphilis and gonorrhœa, and, although it contains $\frac{29}{30}$ of its weight of pure iodine, it is not an irritant, like the latter, either taken by the stomach or applied topically. It is largely employed as a general antiseptic in various forms of dressings. Several modes have been suggested of covering its characteristic odour when used for this purpose, such as mixing it with balsam of Peru, oil of eucalyptus, carbolic acid, oil of peppermint, Sanitas oil, otto of rose, tannic acid, oil of sassafras, coumarin and Tonquin bean; the two last perfume it, and balsam of Peru covers it, but not effectively.

Iodoformum Aromaticum is scented with Coumarin, 1 in 50.

When used for chancres it is best applied in ethereal solution, or iodoform powder dusted on and covered with boric acid ointment or gold-beater's skin, or painted over with flexible collodion.

It is decomposed when taken internally and iodine is soon found in the urine; not being an irritant like iodine, it has been given with good effect when the latter is indicated, and has been of service in cases of irritation of the brain and spinal cord.—Binz.

Preparations.

Buginarium Iodoformi, T.H.

Nasal bougies having a gelato-glycerine basis and containing $\frac{1}{6}$ to $\frac{1}{2}$ grain of Iodoform in each. As they gradually dissolve, the action of the Iodoform is sustained.

Collodium cum Iodoformo.

Iodoform	5 grains.
Flexible Collodion	1 drachm.

Dissolve. Used as a pigment to venereal sores.

Emulsio Iodoformi.

Iodoform 1, Glycerine 10, is used as a surgical application.

Insufflatio Iodoformi, T.H.

Iodoform, in fine powder ...	1 grain.
Starch, in fine powder ...	$\frac{1}{2}$ grain.

In specific affections of the throat, antiseptic and mildly caustic.

Insufflatio Iodoformi Composita (Westminster Hospital),

Iodoform 1 grain, Boric Acid 1 grain, Acetate of Morphine $\frac{1}{6}$ grain.

Iodoform and Eucalyptus Bougies, Cereolus Iodoformi et Eucalypti.

Iodoform, precipitated ...	5 grains.
Oil of Eucalyptus	10 minims.
Oil of Theobroma	35 grains.

To make a bougie 4 in. long. Used for gonorrhœa. After emptying the bladder, the bougie, dipped in a mixture of eucalyptus and castor oils, or carbolic oil, is introduced into the urethra, and forced up, if possible, an inch beyond the meatus. To absorb discharge, a pad of boric lint is applied over the orifice and retained in position, if the patient is able, by drawing the foreskin over it; outside, gutta-percha tissue and isinglass plaster are used to keep the whole *in situ*, for 5 or 6 hours. Absorbent wool or lint should be placed to catch any discharge escaping. On removal, solution of sulphocarbolate of zinc (2 grs. in 1 oz.) is injected, and in acute cases another bougie introduced. The injection should be used 6 or 7 times a day, for 3 or 4 days. When the acute symptoms have subsided, any remaining discharge may be treated by injections of tannin or sulphate or acetate of zinc.—B.M.J. ii./80,124; L. ii./82,175,213.

Iodoform Gauze, 20 per cent. Is prepared and used like Iodoform Wool.

Recommended for burns, calms the pain.—Pr. xliii. 298; M.P.C. ii./89,203.

Useful in post-partum hæmorrhage.—L. ii./89,970.

Iodoform Lint, 10 per cent.

Iodoform Wool, Gossypium Iodoformi, 10 per cent.

Absorbent cotton wool is soaked in an ethereal solution of Iodoform so as to contain, when dry, 10 per cent. of the drug. It is much used as an antiseptic dressing to wounds, and has to some extent displaced carbolic gauze. A weaker preparation containing 4 per cent. of Iodoform has been made, but has not been found sufficiently antiseptic.

Gossypium Iodoformi, T.H.

Contains 50 per cent. of Iodoform. It is used as a stimulant and antiseptic for affections of the ear.

Ophthalmic Discs, contain $\frac{1}{1000}$ grain of **Iodoform** combined with gelatine.

Pastillus Iodoformi, T.H.

Contains 1 grain of Iodoform (more or less if prescribed) with 18 grains of glyco-gelatine in each pastil. Useful in syphilitic eruptions of the tongue, mouth, and throat, and in chronic pharyngitis.—M.T.G. ii./78,626.

Pencils of Iodoform, varying in thickness, for uterine medication, are prepared with iodoform, glycerine, and gum *q.s.*, and dried.

Pilula Iodoformi, T.H.

Iodoform	2 grains.
Sugar of Milk	1 grain.
Glycerine of Tragacanth ...	*q.s.*

To make one pill. *Dose.*—1, two or three times a day.

Plaster Mulls are spread containing 50 per cent. of **Iodoform.**

Suppositorium Iodoformi (*Off.*).

Iodoform, precipitated ...	3 grains. (more or less if ordered).
Oil of Theobroma	*q.s.*

To make one suppository. May also be used as a pessary.

Unguentum Iodoformi (*Off.*).

Iodoform	1 part.
Benzoated Lard	9 parts.

Melt the lard, add the iodoform, stir together until dissolved and cool. Oil of rosemary recommended to cover its odour.—L. i./88,1018.

Unguentum Iodoformi et Eucalypti.

Iodoform	60 grains.
Oil of Eucalyptus	1 ounce.

Heat gently till dissolved and add to

Paraffin ... ··· ...	2½ ounces.
Vaseline	2½ ounces.

Melted together. Stir till cold.

Iodo-Vaseline is the same as the above, only all vaseline in place of 2½ ounces of paraffin.—B.M.J. ii./82,904.

Unguentum Iodoformi Rosatum.

Iodoform	5 grains.
Otto of Rose	3 drops.
Vaseline	1 ounce.

Dissolve and stir till cold. In nasal affections is useful in all forms of perverted secretion.

References.

For granular eyelids, Iodoform 1 to 4 of vaseline, recommended as an ointment.—M.T.G. ii./78,193.

Editorial on its therapeutic uses, recommending collodion solution for enlarged glands, and as a local anæsthetic and dressing for ulcers.—M.T.G. ii./78,629.

In later forms of syphilis and naso-pharyngeal affections, dose 1 to 2 grains internally and externally for venereal sores and indolent ulcers where there is no active inflammation.—L. i./79,83.

Résumé of its uses, recommended as an inhalation for phthisis and for application to cancer uteri et recti. —L. i./79,105.

In phlyctenular ophthalmia and ciliary blepharitis an ointment of 1 in 12 of lard was useful.—L. ii./79,953.

External application of Iodoform to front of the chest lowers the temperature in phthisis.—B.M.J. i./79,937.

Balsam of Peru, 2 parts to 1 of Iodoform completely masks the disagreeable odour of the latter. An ointment recommended of Iodoform 1, balsam 2, vaseline or lard 8, in various cutaneous diseases. Iodoform ointment used in orchitis, enlarged glands, and venereal ulcers. —B.M.J. ii./79,498.

All chancres are best treated with Iodoform. Sprinkle a little on the wound and cover with lint and vaseline.—Br. ii./79,lx.; Pr. xxii.321.

In nasal catarrh used as snuff *per se* with success.—B.M.J. i./80,167.

Ulcers treated by dusting it on and covering with boric acid ointment.—B.M.J. i./80,362,400.

Alveolar abscesses treated by iodoform in conjunction with oil of eucalyptus.—B.M.J. i./80,621.

In impetigo larvalis, sores moistened with glycerine and equal parts of Iodoform and starch at first, then pure iodoform dusted on, in many cases quickly healed.—B.M.J. i./81,767.

On the frog's heart Iodoform acts like chloroform, but much more powerfully, arresting the ventricle; this can be restored by ammonia, which is antagonistic to Iodoform and chloroform.—Pr. xxvii.20.

Ulcer of the stomach treated by a 3-grain pill of Iodoform three times a day, blistering and nutrient enemata, vomiting ceased and rapid improvement resulted.—B.M.J. i./82,657.

Soft sores treated by painting with ethereal solution of Iodoform and then covered with a film of collodion or gold-beater's skin.—B.M.J. i./82,340.

Use and dangers of Iodoform dressings.—M.R. 1882,405.

One in 10 of collodion useful as a pigment in erysipelas.—Pr. xxxii.365.

Insufflation into the windpipe after tracheotomy.—L. ii./86,235,281.

Is often used in too great a quantity to wounds.—L. i./87,595.

Acute and chronic forms of toxic symptoms are produced from its application to wounds.—Pr. 1886,xxxvii.271

Three cases of eczema caused by its use.—L. i./89,681; Th. Gaz. May 1889,359.

Useful in tubercular meningitis, as ointment, 1 in 6 of vaseline or lanolin. Also internally in 4-grain doses.—Pr. xl.459; xli.291.

Potassium bromide an antidote to iodoform poisoning.—Th. Gaz. Sept. 1889,610.

Odourless substitutes for Iodoform.

Aristol. *Syn.*—DI-THYMOL-IODIDE.

A reddish brown powder, containing 45·8 per cent. of

Iodine, insoluble in water, soluble in ether and oils. Recommended for psoriasis, mycosis, and lupus, and as a dusting powder for wounds and burns.

Iodol. *Syn.*—TETRA-IODO-PYRROL. *Dose.*–1 to 3 grains.

A micro-crystalline, brownish white powder, obtained by precipitating pyrrol with iodo-iodide of potassium. It gives off iodine vapours on being heated. Insoluble in water, but soluble 1 in 34 of glycerine, 1 in 6 of alcohol and freely in ether; also soluble in chloroform, and can be used suspended in glycerine, or in solution in rectified spirit and glycerine. It has no unpleasant smell, produces no anæsthetic toxic action, like Iodoform, when wounds are dressed with it, and its application is painless; is useful in buboes and indolent ulcers.—B.M.J.i./86,1229; P.J.1885,367; 1886,1087.

An ointment, 1 to 5 of vaseline, and a solution, 3 parts to 35 of alcohol and 62 of glycerine, have been used for granular and chronic conjunctivitis with good results; and a solution of iodol 1, alcohol 3, glycerine 21, as a pigment in diphtheria.—B.M.J.i./87,789.

Collodion and **Ether** (1 in 1) are good solvents of **Iodol.** These form useful applications.

With spirit and glycerine is valuable as a pigment to canal of external ear for discharges.—L. ii./86 745.

Being both odourless and non-toxic is specially valuable.—Ed. M.J. Jan. 1888,673.

Summaries of results.—Th. Gaz. Jan. 1888,27; Ed. M.J. Dec. 1887,565.

Hard and soft chancres and varicose ulcers much improve under its use.—L. i./87,542.

Has some anæsthetic action, and acts as an astringent when discharge is copious.—B.M.J. i./87,460.

Iodo-Salicylic Acid and **Di-Iodo-Salicylic Acid.** These two acids are iodine compounds of salicylic acid, in which one and two atoms respectively of hydrogen are replaced by iodine. In commerce they are found as white micro-crystalline powders, slightly soluble in water, soluble in alcohol, ether, fixed oils, and like salicylic acid, also in collodion. They have the combined action of iodine and salicylic acid. The **Di-Iodo-Salicylic Acid** is the richer in iodine, and in dose commencing at 22 grains, and increased to 60 grains daily, proved very useful in acute polyarticular rheumatism; is both analgesic and antithermic, and has succeeded where salicylates have failed. May be given in cachets. It is also a powerful antiseptic.—Bulletin Thérap. Aug. 1889,131; P.J. 1889,502, *ex* Nouv. Rem. Nov. 1889,595.

Sozoiodol. Di-Iodo-Para-Phenolsulphonic Acid, which contains 54 per cent. of iodine, 7 per cent. of sulphur, and 20 per cent. of phenol, has been combined with sodium, potassium, ammonium, lead, mercury, and zinc, to form salts which have been suggested as odourless substitutes for iodoform.

The sodium salt, Sozoiodol-Sodium, which has been most used, is in odourless shining acicular crystals, soluble 1 in 14 of water. It has been given internally in doses of 22 grains three times a day, and is well tolerated as an external application.—B.M.J. ii./88,1170; L. i./89,893; P.J. 1888,471; 1889,577; Y.B. 1890,313. Its topical application has been found too irritating.

Iodine is contained in the last five preparations in the following proportions:—

Iodoform	381	in	394	or about	29	in	30
Iodol	508	,,	571	,,	9	,,	10
Di-iodo-salicylic acid	254	,,	390	,,	2	,,	3
Iodo-salicylic acid ...	127	,,	264	,,	1	,,	2
Sozoiodol	54	,,	100	,,	1	,,	2

Periodate, Crystals and Powder.—*Dose.*—1 to 15 grains. A specialty in odourless whitish granular powder, slightly soluble in water, and consisting of periodic and iodic acids, partly in combination with calcium. Morphine solution liberates iodine from it. Recommended as an antiseptic and deodoriser.—L. ii./89,1312; i./90,105; M.P.C. i./90,77. Is a weak germicide.—B.M.J. i./90,279.

IODUM.

Iodine (*Off.*).

The official preparations containing free Iodine are Linimentum Iodi 1 in 8, Liquor Iodi (Lugol's solution) 1 in 20 of water (with iodide of potassium $1\frac{1}{2}$), Tinctura Iodi 1 in 40, Unguentum Iodi 1 in 31, Vapor Iodi, volumetric solution of Iodine, 127 in 10,000.

It has been seriously discussed whether a tolerance of Iodine is not a proof of the existence of constitutional syphilis.—Th. Gaz. Dec. 1888,802.

Tinctura Iodinei, P.E. 1 grain Iodine to 16 minims Rectified Spirit. For external use, and is preferred for injecting for hydrocele; is not miscible with water.

Carbolised Iodine Solution.—See Acidum Carbolicum, p. 9.

Collodium Iodi.—See p. 150.

Glycerinum Iodi.

Iodine	20 grains.
Glycerine	1 ounce.

Heat carefully till dissolved,—is not a mere solution, some decomposition of glycerine takes place. It forms a useful pigment, the skin does not get hardened by its repeated application, and does not peel off.—P.J. 1870,601.

Iodized Phenol.—See Acidum Carbolicum, p. 10.

Iodized Wool. Saturate Absorbent Wool 4, with Iodine 1, dissolved in Ether 10, and dry.

Injectio Iodi Hypodermica Fortissima, T.H.

Iodine	360 grains.
Iodide of Potassium ...	360 grains.
Distilled Water	4½ drachms.

Dissolve. Should measure exactly 1 ounce and contain ¾ grain free Iodine in each minim.

Dose.—3 to 5 minims for fibrous bronchocele.—Birm. Med. Rev. iv.1875,56.

A grain of Iodine may be held in solution in a minim of fluid, by employing iodide of sodium in the proportion of Iodine 3, iodide of sodium 2, and water *q.s.* to form 3 volumes.

Iodo-Glycerine Solution.

Iodine	10 grains.
Iodide of Potassium ...	30 grains.
Glycerine	1 ounce.

Dissolve. In spina bifida about 30 minims are injected into the tumour.—L. i./76,776: L. i./77,684; L. i./82,737; B.M.J. i./82,661; L. ii./83,499.

Pigmentum Iodi et Olei Picis, U.C.H.

(Coster's Paste).

Iodine	120 grains.
Light Oil of Wood Tar	1 ounce.

Mix carefully, applying heat if necessary; after ebullition preserve for use. Ebullition generally takes place by the chemical action between the two ingredients, a part of the oil is oxidised and forms a resinous deposit. Hydriodic acid is probably formed to some extent, as the mixture fails to give any reaction of free Iodine.—M.T.G. i./67,34; B.M.J. i./80,192; L. i./80,55.

Similar, but more irritating, applications are made by combining Iodine with creasote or *huile de cade* in the same proportions as above.

Coster's Paste is a useful application for ringworm of the scalp; after well shaking the bottle, it should be well brushed in with a stiff brush; a scab will be produced which should be removed in a few days, the part cleansed by soaking with oil, and then soap and warm water; after drying, more paste should be applied. It seldom causes pain.

Use in the treatment of ringworm.—L. i./80,55; B.M.J. i./80,114, and Alder Smith on Ringworm.

Tinctura Iodi Decolorata, B.P.C.

Iodine	250 grains.
Rectified Spirit	5½ ounces.

Dissolve with a gentle heat, and add when cold

Strong Solution of Ammonia	10 drachms.

Keep the mixture in a warm place until decolorised, after which dilute it with (about 1 to 2 is required)

Rectified Spirit	*q.s.* to 1 pint.

Mix. Undiluted it may be prescribed as *Tinctura Iodi Decolorata Fortior;* if diluted, it is about the strength of the official tincture, and forms a useful application for chilblains and painting on exposed affected parts. Some iodoform is formed in solution.—P.J. 1876,42.

Tinctura Iodi Oleosa.

Iodine	1 ounce.
Rectified Spirit	9 ounces.

Heat to dissolve, and add

Castor Oil	2 ounces.

Repeatedly applied as a pigment, it does not crack the skin, as the tincture does.

Amyli Iodidum (Buchanan).

Syn.—Amylum Iodatum; Iodized Starch, U.S.

Iodine	24 grains.
Distilled Water	*q.s.* to moisten.

Triturate and add gradually

Starch in powder	1 troy ounce.

Continue the trituration until it assumes a deep and uniform colour, and dry under 104° F.

Dose.—½ to 4 drachms, in water, water gruel, or arrowroot with water. As a local application, is said to be as valuable as iodoform.

This is a mild form of administering Iodine in very weak combination for syphilis and other diseases, the dose is pushed until free Iodine can be detected in the urine. It is recommended as an antidote when poison is unknown, *e.g.*, for sulphuretted hydrogen, the alkaloids, alkaline sulphides, caustic alkalies, and ammonia.—Pr. xxvi. 128.

In lupus erythematodes, doses of 1 to 4 teaspoonfuls three times a day very successful.—B.M.J. i./80, 652.

Pasta Iodi et Amyli, U.C.H.

Starch, in powder	1 ounce.
Glycerine	2 ounces.
Water	6 ounces.

Boil together, and when nearly cold add

Solution of Iodine (*Off.*) ...	1 ounce.

Mix well. In devising this formula the writer found the addition of glycerine was necessary to prevent the paste turning mouldy. Useful to cleanse and heal foul sores, especially such as are syphilitic.—Tilbury Fox.

It rapidly heals syphilitic ulcers, especially those of the face; if applied on lint during the night, the sores may be hidden with calamine lotion during the day.

Syrupus Acidi Hydriodici, U.S., contains 1 per cent. of Hydriodic Acid. It is made by decomposing an alcoholic solution of Iodine in syrup by means of sulphuretted hydrogen, and flavoured with spirit of orange. *Dose.*—20 to 40 minims. Is a mild preparation of Iodine.

Vapor Iodi Ætherealis.

Iodine	3 grains.
Ether	2 drachms.
Carbolic Acid	2 drachms.
Creasote	1 drachm.
Rectified Spirit	3 drachms.

Ten minims to be dropped on the respirator for dry inhalation. Thymol may be substituted for creasote.—B.M.J. i./81,841.

IPECACUANHA.

Ipecacuanha (*Off.*).

Dose.—As an expectorant, ½ to 2 grains, as an emetic 15 to 30 grains.

Acetum Ipecacuanhæ, B.P.C.

Dose.—5 to 40 minims as an expectorant.

Ipecacuanha, in No. 20 powder	1 ounce.
Acetic Acid	2 ounces.
Distilled Water	*q.s.* to 1 pint.

Macerate the powder in 1 ounce of the acid for 24 hours, and then pack in a percolator. Mix the remainder of the acid with 10 ounces of water, and percolate with the mixture, continuing the percolation with water *q.s.* to produce one pint.

Syrupus Ipecacuanhæ Aceticus, B.P.C.

Dose.—¼ to 2 drachms.

Vinegar of Ipecacuanha	1 pint.
Refined Sugar	2¼ pounds.

Dissolve by the aid of a gentle heat. Sp. Gr. about 1·33.

Emetina, Emetine. *Syn.*—EMETIA.

Dose.—$\frac{1}{200}$ to $\frac{1}{50}$ grain, as an expectorant; $\frac{1}{6}$ to $\frac{1}{3}$ grain as an emetic.

An alkaloid obtained from Ipecacuanha, as met with in commerce, is in pale, brownish-white, amorphous masses, sparingly soluble in water and ether; freely soluble in alcohol, chloroform, and dilute acids. It can be obtained in white crystals, which turn yellow exposed to sunlight. It is a biacid base, and a tertiary diamine like quinine, and probably a derivative of chinoline. It irritates the skin applied locally, producing pustules, like tartar emetic. Two grains suffice to kill a dog. It is a powerful emetic and depressent. Ipecacuanha yields about 1 to 1½ per cent. of Emetine.

Emetin—Extractive.

Dose.—Expectorant $\frac{1}{15}$ to $\frac{1}{10}$, emetic ½ to 1 grain, in pill or solution.

An extractive substance, soluble in water, is a commercial article, must be distinguished from the above.

Trochisci Morphinæ et Emetin contain $\frac{1}{40}$ grain of Morphine and $\frac{1}{80}$ grain of Emetin in each.

Emetin is an emetic by reflex action, reduces the respiration and circulation, and it combats the convulsions caused by strychnine.—B.F.M.C.R. ii./74,247.

Physiological properties.—Its action seems to be limited to the peripheric extremities of the vagus nerve.—L. ii./74,532; L. i./80,500.

IRIDIN.

Syn.—Irisin.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth or extract of henbane.

The powdered extractive of a dark brown colour obtained from the root of the blue flag, *Iris versicolor*, has a bitter, nauseous, acrid taste, possesses cathartic, alterative, and diuretic properties, given in hepatic and intestinal disorders. Malarial jaundice has been cured by it.—B.

Pilula Iridin.—Iridin 2 grains, with Extract of Henbane *q.s.*

To make one pill. Two for a dose at bedtime quickly remove slight feeling of biliousness, especially when the tongue is yellow; should be followed by a saline aperient in the morning. Iridin is gentler in action than podophyllin and more reliable when a slight cholagogue is wanted for a lengthened period.—Pr. xxiii.335; B.M.J. i./79,177.

On dogs acts as a powerful hepatic and intestinal stimulant.—B.M.J. Rep. 1878,66.

Comfortable purge for biliousness, 4 grains combined with one grain of euonymin.—B.M.J. i./79,932.

Mild aperient cholagogue, produces bilious stools, does not irritate rectum, and has no subsequent astringency.—L. ii./62,239.

In gallstones, 1 grain every night for twelve nights removes liability to.—B.M.J. ii./81,694.

In vomiting of pregnancy 2-grain doses at bedtime followed by a saline purge.—M.T.G. i./84,539.

JABORANDI.

Jaborandi (*Off.*).

Syn.—PILOCARPI FOLIOLA.

Dose.—5 to 60 grains of the powder.

The dried leaflets of a rutaceous shrub, a species of *Pilocarpus*, probably *P. pennatifolius* imported from Brazil, principally from Pernambuco. The leaflets of *P. Selloanus* are also imported from Rio de Janeiro under the same name, but are much less active. Jaborandi was first introduced into Britain by the writer in 1874. The leaves are of a dull green colour, large, pinnate, having 3 to 5 pairs of leaflets and a terminal one. The leaflets are coriaceous, 4 to 6 inches long, oblong, lanceolate, emarginate, smooth, or only slightly tomentose and full of pellucid dots. The leaves of several species of *Piper* are also known in Brazil as Jaborandi, which should not be confounded with the *Pilocarpus* variety. The *Piper* leaves are brighter green in colour, more papyraceous, and they are not pinnate. The latter have been imported and sold in the London market as Jaborandi. They are said to possess similar therapeutic properties, but have not been carefully investigated. The true Jaborandi is a powerful sudorific and sialogogue; after a time a large dose acts as an emetic, contracts the pupil of the eye, and causes the approximation of vision. These properties are due to an alkaloid **Pilocarpine** contained in it. A second alkaloid Jaborine, which is said to have antagonistic properties to pilocarpine, is probably a derivative from it; more recently two other alkaloids—Pilocarpidine and Jaboridine—have been isolated from the leaves. Pure Pilocarpine is a colourless, syrupy, liquid, odourless alkaloid, which forms crystallizable salts with acids (see Pilocarpina). Jaborine is more liquid, and does not form crystallizable salts. Pilocarpine and Pilocarpidine have a similar physiological action, and their derivatives Jaborine and Jaboridine, are also allied in being antagonistic to them. Possessing such marked physiological properties, Jaborandi has been used in a great variety of diseases, most successfully in asthma, diabetes, and as an antidote to belladonna poisoning. Children proportionately are not affected by the drug so much as adults. Description and physiological action (on the writer).—P.J. 1874,364; and 1875,561; L. i./75,138; B.M J. i./75,142; M.T.G. i./75,92.

Description and botanical source.—P.J. 1875,581,641.

Extractum Jaborandi (*Off.*).

Dose.—2 to 10 grains, in pills. It is a proof spirit extract.

Extractum Jaborandi Fluidum, Liquor Jaborandi.

Dose.—10 to 60 minims. It is an aqueous fluid extract with spirit *q.s.* to keep it. A drachm = 1 drachm of leaves, is more palatable than the tincture.

Infusum Jaborandi (*Off.*).

One ounce to a pint of boiling water.

Dose.—1 to 2 ounces as a diaphoretic.

Tinctura Jaborandi (*Off.*).

Dose.—30 to 60 minims. Four drachms = 1 drachm of leaves, obtained by percolation with proof spirit; 5 to 20 minims 3 times a day, or at bedtime only, check night sweating.—Pr. xxiii.430.

References.

Physiological action on submaxillary gland of dog.—Jour. Anat. and Phys. ix.173; x.187.

Physiological and therapeutical action.—L. i./75,157; B.M.J. i./75,543.

Diabetes insipidus, 2 cases relieved by Jaborandi.—L. ii./75,242.

Case of diabetes treated unsuccessfully by.—L. ii./75,775.

Puerperal albuminuria and convulsions, its effects on.—L. i./79,464.

Is only a feeble hepatic stimulant on dog.—B.M.J. i./79,137,177.

Tension of accommodation, increase of lachrymal secretion and glistening scotomata caused by taking infusion of.—Pr. xxii.458.

Therapeutic study of its uses and properties.—B.M.J. ii./80,889, and i./81,969.

The sweating and salivation from a full dose of Jaborandi or Pilocarpine persists from 2 to 4 or 5 hours, the symptoms come on in about 10 minutes after taking the dose if external conditions are favourable. Hypodermically the alkaloid acts in 3 to 5 minutes. A reduction of temperature on an average of 0·9° occurs under the influence of the drug. The face flushes first and then pales; it causes contraction of the pupil, tension of accommodation with approximation of the nearest and farthest points of distinct vision, and amblyopic impairment of vision from diminished sensibility of the retina. These effects do not last long. It is slightly narcotic, sometimes causes sickness in large doses, promotes secretion of milk and is antagonistic to atropine.—R.

Pilocarpina, Pilocarpine.

The pure alkaloid is not used medicinally. It has been synthetically prepared from pyridine, pilocarpidine being an intermediate product. For characters and properties, see p. 233.

Pilocarpinæ Hydrochloras, **Pilocarpinum Hydrochloricum, P.G.**

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain by mouth or $\frac{1}{10}$ to $\frac{1}{3}$ grain hypodermically. In minute granular snow-white crystals, slightly deliquescent and very soluble in water. This salt is preferred on the Continent.

Pilocarpinæ Nitras (*Off.*).

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain as the hydrochlorate.

In minute white granular snow-like crystals, but may be obtained in large white prismatic crystals. Soluble 1 in 10 of water, freely soluble in hot, but very slightly in cold alcohol. This salt, preferred in England, was the first pure preparation of Pilocarpine prepared, and obtained by the writer by crystallizing it from an alcoholic solution, thus freeing it from impurities.

Guttæ Pilocarpinæ, R.O.H.

Nitrate of Pilocarpine ...	2 grains.
Distilled water	1 ounce.

Dissolve. Used like Physostigmine to contract the pupil.

Injectio Pilocarpinæ Nitratis Hypodermica, R.O.H.

Nitrate of Pilocarpine ...	1 grain.
Distilled water	20 minims.

Dissolve. *Dose.*—2 to 6 minims.

Hypodermic Lamels contain ¼ grain, and **Ophthalmic discs** 1/500 grain, combined with gelatine.

Lotio Pilocarpinæ, for the hair.

Nitrate of Pilocarpine, 2 grains; Hydrochlorate of Quinine, 8 grains; Glycerine, 2 drachms; Rose Water, 6 drachms. Applied locally, and used internally or hypodermically, Pilocarpine seems to have an action in promoting the growth of hair in alopecia.

Pilula Pilocarpinæ Nitratis.

Nitrate of Pilocarpine, 1/20 grain triturated with sugar of milk and glycerine of tragacanth *q.s.* to make one pill.

References.

Useful for checking night sweating, a pill 2 or 3 times a day or repeated once or twice during the night.—Pr. xxiii.430.

The salts of pilocarpine possess all the before-mentioned properties of jaborandi in a marked degree; applied topically, they contract the pupil of the eye. Pilocarpine is antagonistic to atropine, and a complete antidote to poisoning by the latter. It promotes the growth of the hair in alopecia. Large doses are powerfully diaphoretic, small ones (1/20 grain) check night sweating of phthisis—does not over-dry the skin.—Pr. xxxiii. 430.

Acute nephritis, used with effect in 0·03 gramme (½ grain) for a dose; a 2 per cent. solution applied to the eye produces strong contraction.—Binz.

Unilateral sweating, experiments on, pilocarpine affected the normal more than the diseased side.—Pr. xvii.401.

For Bright's disease and dropsy.—Pr. xxi.132; L. ii./88,1228.

In rheumatic iritis.—Pr. xxi.209.

Use as an oxytocic.—Pr. xxii.135.

The hydrochlorate applied locally caused high degree of myosis and slight spasm of accommodation; injected hypodermically, high degree of spasm of accommodation and slight myosis.—Pr. xxii.458.

To contract the pupil of the eye is less active (slightly) than physostigmine.—B.M.J. ii./79,364.

In poisoning by atropine 2½ grains, hydrochlorate of pilocarpine 2½ grains in centigramme (about 1/7 grain) doses was a successful antidote.—B.M.J. i./80,366.

Antagonism to atropine.—L. ii./79,474.

In intermittent fever $\frac{1}{7}$ to $\frac{1}{5}$ grain of nitrate promptly cuts short the chill, produces sweating, and avoids hot stage altogether. —Pr. xxiii.365.

Summary of uses:—useful in nephritis, assists pains of labour, but will not originate them, diminishes urine in diabetes; action similar to physostigmine but less irritating, in diseases of the eye; said to promote growth of the hair.—Pr. xxiii.374.

Three hypodermic injections successful in a comatose case of uræmia, albuminuria, with convulsions and complete anuria.—Pr. xxiv.129.

Relieves prurigo; in two cases of alopecia result undecided.—Pr. xxv.50; M.T.G. ii./80,554.

In skin diseases where the secretion of sweat was more or less altered, $\frac{1}{6}$ grain hypodermically twice a day found useful in prurigo, urticaria, and some cases of alopecia.—Pr. xxvi.128.

In asthma, doses of $\frac{1}{5}$ to $\frac{1}{3}$ grain of the hydrochlorate, hypodermically given systematically at intervals, is very serviceable.—B.M.J. i./80,917,960.

Action on pupil of eye is double, both dilates and contracts it, causes contractions by stimulating the third nerve. —L. ii./80,779. Increases tension of eye.—L. ii./86,183.

Hydrophobia, two cases treated by $\frac{1}{3}$ grain injections, death resulted in both cases.—L. ii./80,491.

Puerperal convulsions treated by injection of Pilocarpine, pains became stronger, fœtus expelled, and rapid recovery.—B.M.J. i./81,511.

Pilocarpine not a reliable ecbolic, use cautioned against, especially in coma.—B.M.J. ii./88,819.

Therapeutic uses and physiological effects.—Med. Congress Rep. 1881,i.491.

In belladonna poisoning by 18 drachms of the liniment, 4 hypodermic injections of one-fifth of a grain was a direct antidote, and did not cause the least perspiration. —L. i./81,951. Another case.—B.M.J. i./90,420.

Atropine poisoning successfully treated by pilocarpine given hypodermically.—B.M.J. i./81,300.

Pilocarpine is an antidote to morphine, having exactly opposite effects on the blood-pressure, respiratory centre, and cerebrum.—L. i./89,497; P.J. 1889,703.

Relieved puerperal convulsions by two hypodermic injections of 15 minims of 1 per cent. solution. These caused much salivation, recovery was almost hopeless; but the pains improved, and fœtus was expelled, and, although unconscious for two days after, recovery was rapid.—B.M.J. i./81,511; L. ii./86,1019.

Hydrophobia, one case cured by hypodermic injections of $\frac{1}{6}$ grain doses of Pilocarpine.—M.R. 1883,146.

Fetid perspiration of the feet is cured permanently by hypodermic injection of Pilocarpine.—L. i./81,638; Pr. xxvii.461.

In diphtheria, notice of its use, combined with pepsin and hydrochloric acid; the abundant salivation detaches the membrane, &c.—L. ii./81,962; Pr. xxvi.378,461, and Pr. xxix.62.

Syphilis, 32 cases, 78 per cent. cured by Pilocarpine injections.—Pr. xxvii.380.

Action of injections of Pilocarpine on the hair, in one case changed colour from blonde to black, in another caused rapid growth.—L. i./82,78; B.M.J. ii./89,779; Th. Gaz. April 1889,238.

Case of hydrophobia treated successfully by 3 hypodermic injections of hydrochlorate of pilocarpine, 1 centigramme ($\frac{1}{7}$ grain).—L. i./82,1056.

In a case of locomotor ataxy, the hypodermic injection relieved the pain after morphine had failed.—L. ii./82, 909; B.M.J. i./89,119.

In deep-seated diseases of the eye, optic neuritis, with symptoms of meningitis at the base of the brain, and in conjunction with antisyphilitic treatment in specific eye diseases is often useful.—B.M.J. ii./82,684.

Recommended for myxœdema.—L. ii./83, 951; B.M.J. ii./83, 1071; ii./84,681.

Diabetes, a case recovered under its use.—L. ii./84,275.

Intense headache, from syphilitic lesion of brain, relieved by subcutaneous injection of $\frac{1}{5}$ to $\frac{1}{2}$ grain of hydrochlorate of pilocarpine.—Pr. xxxii.261.

Severe hiccough checked by $\frac{1}{4}$ grain.—B.M.J. ii./85 1158.

Rheumatic tetanus recovered from under its use.—Ed. M.J. March, 1887,848.

Traumatic tetanus, 3 cases cured.—B.M.J. i./86, 1276.

Arrested secretion of milk, is restored, $\frac{1}{4}$-grain doses.—L.ii./85,885.

In puerperal convulsions it is a failure.—L.ii./87,307.

Politzer recommends its use in syphilitic disease of the labyrinth.—Brunton.

In yellow fever, $\frac{1}{4}$-grain doses given. —P.J.1887,540.

Successful use in deafness.—L. ii./88,130 ; ii./89,643 ; B.M.J. ii./89,220,285,286. Unsuccessful cases.—B.M.J. ii./89,129,286.

Hypodermic injection successful in traumatic injury of labyrinth of ear. B.M.J. i./90,234.

Relieves itching of jaundice, and assists passage of gallstones.—Pr. xlii,210 ; B.M.J, i./89,119 ; L. i./89, 1157.

Severe cold cured by one dose of $\frac{3}{10}$ grain internally, but excessive perspiration, salivation, and strangury caused. L. i/90,63.

JUGLANDIN.

Dose.— 2 to 5 grains, in a pill with mucilage.

The powdered extractive obtained from inner bark of root of butter-nut, *Juglans cinerea.* Colour dark brown. Is laxative and cathartic, without debilitating, useful in habitual constipation and biliousness.

A moderately powerful hepatic and mild intestinal stimulant.—B.M.J. i./79,177 ; Pr. xxiii.337.

Spiritus Nucis Juglandis, distilled from the walnut, *Juglans regia,* is used as an antispasmodic, and for checking sickness of pregnancy. *Dose.*—1 to 4 drachms.

Kairine.—See p. 125.

KAOLIN PRÆPARATUM.

Prepared Kaolin.

Native white silicate of alumina, which has been purified by elutriation from free silica and undecomposed felspar; it is a pearly white powder, unctuous to the touch and free from grittiness. It forms a useful absorbent powder to apply to infants and to irritated conditions of the skin generally. A special preparation, agreeably perfumed, having similar chemical and physical properties, is sold under the name of Cimolite. It is a pure white soft powder. Kaolin is unacted upon by most chemical reagents; it is, therefore, useful for diluting such salts as nitrate of silver and permanganate of potassium, either to form them into powders or into pills.

Preparation.

Unguentum Kaolin.

Vaseline ... ... 1 ounce.
Paraffin ... . 1 ounce.
Melt and add
Kaolin ... ... 1 ounce.
Stir till cold.

Spread on rag to apply to abraded skin; it allays irritation. It forms a useful excipient for nitrate of silver and permanganate of potassium pills.—See Potassii Permanganas, p. 321.

Absorbent Powders.—In addition to Kaolin the following are used medically:—

Fuller's Earth, is also a native silicate of aluminium, with traces of iron, grey in colour when in powder.

Talc, a native foliaceous silicate of magnesium; that obtained from the Tyrol—Venetian Talc—is very soft and unctuous.

French Chalk, a harder silicate of magnesium than talc, forms a soft powder.

Selenite, a transparent variety of gypsum, native sulphate of calcium reduced to powder, is soft and pearly.

Kieselguhr, a diatomaceous earth, known as white peat; when burnt produces an extremely light ash, which is very absorbent and antiseptic.—Pr. xxxiv.166.

Oxychloride of Bismuth. See Bismuthi Oxychloridum, p. 77.

Oxide of Zinc, various **Starches,** powdered **Orris Root,** and mixtures of these, perfumed, are employed for toilet purposes.

Calamina Præparata, Prepared Calamine (*Off.*).

Syn.—LAPIS CALAMINARIS PRÆPARATUS.

Impure oxide of zinc prepared by calcining native Calamine (carbonate of zinc) and reducing it to an impalpable powder; should be almost entirely soluble in diluted sulphuric acid, to which solution, when potash or ammonia is added in excess, the precipitate first formed is redissolved. Genuine Calamine, on account of its physical characters, when of a neutral flesh tint, is preferred to the other zinc powders, as a dusting powder or for making lotions.

Ceratum Calaminæ, P.L.

Syn.—TURNER'S CERATE.

Calamine and Yellow Wax, of each 15, Olive Oil 40. A useful application to burns.

Lotio Calaminæ, U.C.H.

Levigated Calamine ...	40 grains.
Oxide of Zinc	20 grains.
Glycerine	20 minims.
Water (or Rose Water) to ...	1 ounce.

Elutriate the calamine and oxide of zinc by triturating them in a mortar with successive portions of the water and decanting from the siliceous matter, and add the glycerine.

Used in eczema, especially where the surface is red and tender, also to conceal acne spots on the face. One grain of perchloride of mercury may be added to 6 ounces of it.

Unguentum Calaminæ (*Off.*).

Prepared Calamine 1, Benzoated Lard 5.

LANOLINUM.

Lanolin. *Syn.*—ADEPS LANÆ, WOOL FAT.

The purified fat, chiefly cholesterin in combination with stearic and other fatty acids, obtained from sheep's wool, and mixed with about 40 per cent. of water.

It is a cream-coloured mass of thick ointment-like consistence and neutral reaction; nearly inodorous; melting at 104° F., with separation of water. It is insoluble in water, of which, however, several times its weight may be incorporated with it without affecting its consistence. It is partially soluble in alcohol, while ether and chloroform dissolve only the fats it contains.

Lanolinum Anhydricum, Anhydrous Lanolin.

Is the above deprived of its water. It is an unctuous, translucent, pale-brown mass, and is occasionally in request.—B.M.J. i./86,97,282,1105; ii./87,1087.

Agnine is the name given to a similar substance of American origin.

Originating from keratinous tissue, Lanolin has affinity for, and is readily absorbed by, the skin. It causes no irritation, and is useful in massage. It helps absorption of narcotic extracts, quinine, iodine, iodide of potassium, and chaulmoogra oil. Iodine appears in the urine in three minutes after friction. Washing the skin with ether facilitates its absorption. It is more readily absorbed in children than in adults. Useful combined with chrysarobin in psoriasis, ringworm, and tinea favosa, and with salicylic acid for eczema; or with mercury, as in

Lanolinum Hydrargyri.

Mercury 100, Lanolin 200, Mercurial Ointment 5, Mutton Suet 50. This is said to have special virtues for inunction.—M.P.C. ii./86,327.

Sapolanolin. Lanolin, 5, Soft Soap.
Recommended for acne and eczema.

Unguentum Lanolini, Lanolin Ointment.

Anhydrous Lanolin, 65; Soft Paraffin or Vaseline, 30; Hard Paraffin or Ceresin, 5; melt and incorporate Water, 30. May be perfumed to form **Lanolin Cream.** These are much less sticky than Lanolin. More water can be used if desired.

Essay on Lanolin by Liebreich; its characters and uses.—B.M.J. ii./85,1075; B.M.J. ii./86,1757.

Mercurial taste has been perceived in mouth in a few minutes after inunction of Lanolin containing 1 of corrosive sublimate in 1,000 parts.—B.M.J. i./86,97; ii./86,1178.

Quinine and narcotics are well absorbed from it.—B.M.J.ii /86,116.

Useful in sycosis, impregnated with sulphuretted hydrogen, of which it absorbs 110 times its weight.—L. ii./86,888.

Should not be mixed with other animal fats.—B.M.J. ii./86,107.

Alkaloids are absorbed with special readiness from this basis.—L. ii./86,31.

Its rapid absorption is due to the similarity between it and the natural fat of man's epithelium.—B.M.J. ii./86, 572.

Lanolin is unfavourable to the percolation and development of micro-organisms. If mixed with mercuric chloride is as efficacious as an aqueous solution of the salt.—B.M.J. ii./88,1059; L. i./89,853.

While favouring local action of incorporated substances, lanolin retards their absorption.—P.J. 1889, 865.

LEPTANDRIN.

Dose.—¼ to 2 grains in a pill, with glycerine of tragacanth.

A dark greenish brown resinoid powder obtained from culvers root, *Leptandra Virginica.* It excites the liver and promotes flow of bile, without any irritation of the bowels—½ to 2 grains twice or three times a day. Is useful in dyspepsia, diarrhœa, and cholera infantum.

One grain is a very useful cholagogue and alterative; 2 grains have an aperient action; acts well combined with podophyllin in bilious headache.—B.M.J. ii./76,113.

On dog a moderate hepatic, but feeble intestinal stimulant.—B.M.J. Rep. 1878,66; Pr. xxiii.410.

Aperient, alterative, and tonic to the stomach, has been given in diarrhœa and dysentery.—L. ii./62,239.

Lipanin. See Oleata, p. 272.

LITHIUM.

Lithii Benzoas, Benzoate of Lithium, U.S.
Dose.—2 to 10 or 30 grains.

Usually a light white crystalline powder, soluble 1 in 4 of water; contains about 95 per cent. of benzoic acid. Used as an antilithic.

Lithii Bromidum, Bromide of Lithium, U.S.
Dose.—5 to 15 grains.

A white granular salt, very deliquescent, odourless, having a sharp, somewhat bitter taste and neutral reaction; very soluble in water and alcohol. A given weight contains nearly half as much more of bromine as the same weight of bromide of potassium, and its effect as a bromide is said to be even greater than this ratio, especially as a hypnotic, and to be used in epilepsy.

Lithii Carbonas (*Off.*). *Dose.*—3 to 6 grains.

Lithii Citras (*Off.*) *Dose.*—5 to 10 grains.

Granular Effervescent Citrate of Lithium. *Dose.*—1 or 2 drachms. Contains 1 in 30.

Lithii Guaiacas, Guaiacate of Lithium.

Dose.—5 grains twice a day.

Prepared by digesting guaiacum resin in an aqueous solution of lithia, decanting the clear solution, evaporating, and scaling it. Contains lithia 1, guaiacum resin 3. Given for chronic gout and rheumatism

Lithii Hippuras, Hippurate of Lithium. *Dose.*—5 to 20 grains.

In light white minute crystals, freely soluble in water, is a powerful solvent of lithates; useful in gout and rheumatism.

Lithii Salicylas, Salicylate of Lithium, **U.S.**

Dose.—5 to 20 grains for rheumatism and gout. A deliquescent white powder, soluble 1 in 1 of water.—L. ii./85,1161; Y.B. 1886,72.

Granular Effervescent Salicylate of Lithium contains 2 grains in a drachm. *Dose.*—1 or 2 drachms.

Lithii Sulpho-Icthyolas.—See p. 218.

LUPULINUM.

Lupulin (*Off.*).

Dose.—2 to 5 grains in a pill, with glycerine and spirit.

The bright brownish yellow, or yellowish brown glandular powder—lupulinic glands—separated from the strobiles of the hop—*Humulus Lupulus.* It is aromatic and bitter, and contains most of the active properties of the hop—the resin and volatile oil. Should not yield above 15 per cent. of ash. It is used in insomnia and for alcoholism.

Tinctura Lupulinæ, U.S., 1870. 1 in 8 S.V.R. *Dose.*—10 to 60 minims.

Tinctura Lupuli (*Off.*) *Dose.*—$\frac{1}{2}$ to 2 drachms. Is prepared from the dried Strobile 1 in 8 S.V.T. A much more aromatic preparation is made from the fresh fruit.

LYCOPODIUM.

Clubmoss Spores.

The spores of *Lycopodium clavatum*, common club-moss, form a fine, mobile, inodorous, tasteless powder, with a pale yellow hue. Lycopodium is a strong repellent of aqueous moisture, oats on water, yet sinks in it after boiling. By strong trituration it coheres and leaves an oily stain on paper. It is immediately moistened by oily and alcoholic liquids, chloroform and ether, and, having great power in absorbing oils and oleo-resins, it is a useful excipient to form these into pills. It forms a good pill powder, protecting hygroscopic pills, is useful as a diluent for insufflations for the throat and ear, and as an inert dusting powder for excoriated and weeping surfaces of the skin. When ignited, it explodes with a flicker. Has been given in cases of frequent micturition, and irritation or spasm of the bladder, when not diseased.—L. ii./87,605.

Tinctura Lycopodii. *Dose.*—15 minims to 1 drachm. Lycopodium, first soaked in ether and dried, 1, Rectified Spirit 10.

MALTUM.

Malt. *Syn.*—BYNE.

Malted barley contains the ferment Diastase, which possesses the property, under certain conditions, of converting starch into dextrin and sugar (maltose). Malt flour and other preparations of malt are used medicinally to assist the digestion of starchy foods.

Malti Pulvis. *Dose.*—1 to 2 drachms.

Malt flour or entire malt powdered, is added to baked wheaten flour in various proportions to form the popular infants' foods. When these are mixed with hot water or a mixture of hot milk and water, the starch contained in the wheaten flour becomes soluble and digested into dextrin and malt sugar. The diastasic property of malt is most acute in aqueous solution at 140° F.—a boiling heat destroys it. A small teaspoonful of malt flour may be sprinkled over or mixed with cooked farinaceous foods, such as porridge, gruel, bread and milk, or arrowroot, when cool enough to sip, or it may be infused in a cup of coffee, glass of beer, or cold water; the latter form pleasant and useful beverages when taken with meals, to assist the digestion of bread or other farinaceous food.

Extractum Malti, P.G., U.S. *Syn.*—EXTRACTUM BYNES. *Dose.*—1 to 4 drachms.

A syrupy, yellowish brown liquid, having a pleasant sweet taste, consisting principally of dextrin and malt sugar (maltose), and possessing some diastasic properties. According to the German pharmacopœia, it is made by first moistening ground Malt with cold water, macerating and adding more water and digesting at 149° F., then *boiling,* straining and evaporating to a thick extract. The *boiling* destroys the diastasic property, but makes the extract keep better. Much of this preparation in commerce is weak in diastase, being made by mixing with water at the proper temperature 1 part of bruised Malt with 6 to 10 parts of maize or other cereal flour,—the starch of the latter is converted into dextrin and maltose; on pressing, filtering, and evaporating at a low temperature, a syrupy extract is obtained which still contains some unexhausted diastase. Extract of Malt and its preparations are prescribed in cases of debility of all kinds, as a restorative, like cod liver oil, but particularly where digestion is weak.—B.M.J. i./79,683; L. i./79,125; M.T.G. ii./78,529; Pr. xxxii.340.

Extractum Malti Ferratum, P.G.

Pyrophosphate of Iron ...	2 parts.
Water	3 parts.

Dissolve and add

Extract of Malt	95 parts.

Mix. *Dose.*—1 to 4 drachms.

Extractum Malti cum Oleo Morrhuæ.

Dose.—1 to 4 drachms.

The percentage of oil in this preparation is variable and it quickly turns rancid; a little salicylic acid is often added to prevent it becoming so.

Infusum Malti.

Malt, bruised	3 ounces.
Cold Water	10 ounces.

Infuse 12 hours, and strain to produce 7 ounces.

Dose.—2 to 4 drachms with meals, in water or milk, or added to cooked gruel or porridge (Pr. xxiii.401). This infusion is rich in diastase but keeps badly; a minim of chloroform added to each ounce will keep it.

MANGANESIUM.

Manganese.

Manganesii Oxidum Præcipitatum.

Dose.—3 to 10 grains, or more, in pills with syrup.

Consists principally of hydrated manganic oxide, a bulky blackish brown powder, free from grittiness and entirely soluble in cold hydrochloric acid. Is more suitable for medicinal purposes than the above. Useful in gastrodynia, and in amenorrhœa taken 3 or 4 times a day before expected period.—L. i./83, 7.

In chlorosis assists the action of iron salts.—B.M.J. ii./85,473.

Is equally potent for amenorrhœa and less irritant than the permanganates.—B.M.J. ii./86,1114.

Manganesii Hypophosphis, Hypophosphite of Manganese. *Dose.*—1 to 10 grains.

A white or slightly rose-tinted powder, soluble in 10 of water.

Manganesii Phosphas, Phosphate of Manganese, Manganous Phosphate.

Dose.—1 to 5 grains.

A white powder, generally with a pinkish tint, insoluble in water. From ½ to 1 grain is sometimes dissolved in 1 drachm of syrup of phosphate of iron for a dose.

Manganesii Sulphas, Sulphate of Manganese, Manganous Sulphate. *Dose,* of powder.—2 to 10 or 60 grains or more.

Is usually met with as a white powder with a faint pink tint, due to a little manganic sulphate. Crystals may be obtained with difficulty, in form like ferrous sulphate but with an amethyst tint. For jaundice, 60 grains is a cholagogue purgative.

It does not excite the liver, though it is a powerful excitant of the intestinal glands of the dog.—B.M.J. i./79,105,177.

Potassii Permanganas.—See p. 320.

MENISPERMIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive of a pale brown colour obtained from the root of yellow parilla—*Menispermum* *fenestratum*—and *M. Canadense.* Is an alterative tonic, laxative, diuretic, stimulant, and resolvent, useful in indigestion.

Pilula Menispermin.

Menispermin	... ...	2 grains.
Glycerine of Tragacanth	...	*q.s.*

To make one pill. Take 3 times a day, is a tonic, laxative, diuretic, and alterative.—L. ii./62,20.

On the dog is a slight intestinal, but not a hepatic stimulant.—B.M.J. ii./78,909; Pr. xxiii.423.

MENTHOL.

Menthol (*Off.*).

Dose.—½ to 2 grains or more in a pill with powdered soap, or in solution in olive oil.

A white crystalline stearoptene resembling sulphate of magnesium in appearance if dry, or in long needles, sometimes in crystalline masses, moist from adhering liquid oil. Imported principally from Japan and China, and obtained from *Mentha arvensis, vars. piperascens et glabrata*, it melts when pure at 97° F. It is contained in solution in Menthon, the residual liquid of Japanese peppermint oil, to the extent of 40 per cent., from which it may be separated by the action of hydroxylamine. The remaining Menthon may be converted into Menthol by the action of sodium on its ethereal solution. It is insoluble in glycerine, but soluble 3 in 2 of rectified spirit, also freely in ether, chloroform, and fixed and volatile oils; sparingly soluble in water, but imparts to it the strong odour and taste of peppermint. It produces a warmth and glow on the tongue, and sensation of coolness on drawing the breath over it. Given internally, it acts as a diffusible stimulant. Its solutions, applied topically to the skin in a similar manner, affect the nerves of the part somewhat like aconite, and form useful pigments for neuralgia, having the advantage of being non-poisonous. It has powerful antiseptic properties, but is not caustic; its action more resembles that of an anæsthetic, and gives great relief in prurigo. The moist variety is put up and sold, moulded into sticks and pencils, for relieving neuralgia; this kind of Menthol, having a low melting point, liquefies when gently rubbed on the painful part. **Pipmenthol** is obtained from American oil, and has a melting point of 104° F.

Equal parts of Menthol and Thymol rubbed together liquefy and form an oily liquid, and similar liquefactions take place on triturating respectively equal parts of Menthol and Absolute Phenol, equal parts of Menthol and Chloral Hydrate, 3 parts of Menthol and 2 parts of Camphor, 2 parts of Menthol and 1 part of Butyl Chloral Hydrate, and 2 parts of Menthol, with one of each Carbolic Acid and Butyl Chloral Hydrate. These form colourless transparent oily fluids; when applied on cotton wool are useful for relieving toothache arising from carious teeth, or preparing them for stopping; the pain is promptly relieved, and all symptoms obtunded during the process of filling. Its Camphor and Phenol combinations may be used to medicate oro-nasal and other dry inhalers.

A 20 per cent. solution in olive oil, injected into the larynx, or even the trachea, produces good results in phthisis and laryngeal disease. A **Snuff** for nasal catarrh, consisting of menthol 1, chloride of ammonium 3, boric acid 2, gives great relief.—Ed.M.J. 1888,625; B.M.J. ii./88,710; Th.Gaz. Aug.1889,546. Another formula, menthol 1, boric acid 10, ground coffee 10.

Gossypium Menthol.

Absorbent wool is impregnated with an ethereal solution of menthol, so as to contain when dry, 10 per cent. of the drug. Useful to plug the nostrils in catarrh.

Linimentum Menthol.

Menthol 3, Chloroform 4, Olive Oil *q.s.* to 16; is useful in lumbago, neuralgia, and sciatica.

Menthol cum Aconitina. Add Aconitine 1 grain, in Rectified Spirit 20 minims, to Menthol (melted) to make 300, 400, or 500 grains. Divide into 60-grain cones.—P.J.1887,252.

Mentholeate. Menthol, 200 grains, oleic acid, ½ ounce. Heat gently to dissolve. Useful in pruritus, etc., where absorption is desired.—Pr. xl.65.

Tabellæ Menthol. *Dose.*—1 or 2 *ad libitum.* Contain $\frac{1}{10}$ grain menthol, combined with chocolate, the oil of which fixes it.

As an antiseptic and antineuralgic, 1 in 60 of rectified spirit, with a little oil of cloves added; useful in sciatica, intercostal neuralgia, and the crystals on cotton wool for toothache.—L. i./79,822; L. ii./79,335,376,448.

Sciatica, 3 cases relieved by applying alcoholic solution 1 in 20, might be used 1 in 10.—L. ii./79,750.

Chemical properties and uses.—P.J. 1879,391.

Ringworm of the scalp, recommended and used for with success, 1 part Menthol in 4 volumes of chloroform and 12 volumes olive oil.—L. i./81,241.

A local anæsthetic effect on mucous membranes is produced by 20 or 30 per cent. solutions in alcohol or ether.—L. ii./85,128.

Useful in pruritus vulvæ, rubbed on solid; relief lasts several days, and congested colour disappears.—B.M.J. ii./88,491.

Useful in ½-grain doses in vomiting of pregnancy.—Pr. xliii,450.

In acute affections of the nose and throat, stimulates the contraction of bloodvessels, arrests sneezing and discharge, and relieves pain and fulness of head, when inhaled by vaporisation or from a mouth-piece inhaler. It is antiseptic and germicide.—M.P.C. i. 90,34.

Po-ho-yo.—Chinese oil of peppermint, not obtained from *Mentha piperita*, but having the odour of the British plant, is sold as Japanese Drops or *Gouttes Japonnaises* for the relief of neuralgia, in little bottles and cases, labelled with Chinese characters. It is much used by the Chinese and Japanese for the relief of neuralgia. A little should be smeared on the painful part, or applied on cotton wool to a carious tooth. It is rich in Menthol, which crystallizes and solidifies the oil when exposed to cold.

In phthisis and diphtheria, use of oil of peppermint as an antiseptic.—L. i./88,512,567.

MENYANTHES.

Bogbean. *Syn.*—BUCKBEAN; MARSH TREFOIL.

The leaves of this gentianaceous plant, *Menyanthes trifoliata*, are used by herbalists and others as a household remedy, as a pure bitter tonic, also as an emmenagogue antiscorbutic, vermifuge and febrifuge; large doses are purgative and emetic. They contain a glucoside menyanthin, which, under the influence of acids, breaks up into glucose, and menyanthol, a volatile product.

Infusum Menyanthis. 1 in 20.

Dose.—2 to 6 ounces taken hot, early every morning, for some weeks, if necessary; is recommended for functional amenorrhœa.—L. i./85,132,235.

Extractum Menyanthis et Glycyrrhizæ Liquidum.

Dose.—½ ounce in half a tumbler of hot water; this dose is equal to ¼ ounce of the drug, and has liquorice to cover its bitterness.

Metaldehyde. See Aldehyde, p. 47.

METHYL CHLORIDUM.

Chloride of Methyl.

This gas is prepared in Paris and compressed into cylinders (in the form that nitrous oxide is generally supplied to dentists), for use as a local anæsthetic. The gas is emitted from the cylinder and, applied as a jet, freezes the part by the intense cold it produces.

Among the residual products obtained in the manufacture of alcohol from the molasses of beet-root sugar, is trimethylamine, which, when purified and converted into a chloride, is decomposed by the action of heat into chloride of methyl, ammonia, and trimethylamine again. These are conducted into vessels containing hydrochloric acid, the ammonia and trimethylamine form salts, while the gaseous chloride of methyl passes into a gasometer, from which it is compressed by an air-pump. The tension of its vapour not being high, and not increasing very rapidly with the temperature, under a pressure of about six atmospheres its liquefaction is easily effected. When allowed to escape from the cylinder into an open vessel, it begins to boil, and in a few moments the temperature of the liquid is lowered by the ebullition about 75 degrees Fahrenheit below the boiling point of the chloride. For medicinal use a pulveriser is attached to the portable cylinder, so that as the chloride is emitted it vaporises and produces intense cold. It can thus be applied in a direct stream which should fall obliquely on any part requiring its congealing action, either as a local anæsthetic or for relieving neuralgia, sciatica, and other affections. Without the use of a pulveriser the jet of gas is apt to take an uncertain direction, owing to the aperture becoming blocked with particles of ice.

The chief objection to this method is that the anæsthetised area cannot be sufficiently circumscribed. By the process of "stypage," tampons composed of cotton wool, surrounded by flock silk and then covered with thin silk, are saturated with Methyl Chloride, and applied to the part by means of wooden or vulcanite holders. After contact for some seconds the part becomes pale and anæmic, and diminishes in sensibility. If the tampon be then removed there is marked reaction, shown by congestion and slight itching ; but if the application be continued for a few seconds longer, the skin assumes a white, dried, parchment-like appearance. This is the time to operate. Chloride of Methyl may be employed in all kinds of small operations—circumcision, opening abscesses, and in neuralgia, lumbago, muscular pains, gout, etc. In scraping lupus it is best applied by means of a camel-hair brush, as special parts can then be anæsthetised with perfect precision. For the above purposes the chloride should be contained in a glass tube surrounded by a vacuum, which prevents its quick volatilization, known as a "thermo-isolator."—B.M.J. ii./88,243 ; ii./89,888 ; P.J. 1889,256.

It is also used for freezing histological specimens previous to section cutting.

It has been used in the treatment of sciatica with success, also in articular rheumatism (acute and subacute), nodular and chronic rheumatism, stitches in the side, pleurisy, tuberculosis, and pneumonia. The spray is applied obliquely, not perpendicularly, on the cutaneous surface, and only for five or six seconds, else, if prolonged, blisters or eschars may result.—B.M.J. i./85,813. Sprayed on skin of face for neuralgia has been found useful.—B.M.J. i./86,714 ; L. i. 88,489. Not adapted for general anæsthesia.—B. M.J. i. 88,1211.

Painting surface with glycerine avoids ill effects on the skin.—Th. Gaz. Feb. 1889,116.

METHYLAL.

Dose.—15 to 30 minims in aqueous mixture.

Is recommended as an anæsthetic and hypnotic. It is prepared by distilling methyl-alcohol with an oxidizing mixture of manganese dioxide and sulphuric acid, and treating the distillate with potash lye to separate methyl formate, which passes over with the

Methylal. Methylal is a colourless, mobile, volatile liquid, Sp. Gr. 0·855, boils at 42° C., is slightly acid to litmus, has an odour recalling those of chloroform and acetic ether, and a burning aromatic taste, but produces a cold sensation when placed on the skin. It augments the heart-beats, slightly lowers the blood-pressure, and causes slower and deeper respirations. It is antidotal to strychnine, suspends the spasm, and has been given to relieve nervous stomachic pains,—1 in 60 to 100 parts of diluted syrup.—L. ii./86,888.

Topically as an anæsthetic 1 in 6 of almond or olive oil, or with simple cerate.—Th. Gaz. Dec. 1887,821.

In angina, 9 parts with 1 of nitrite of amyl prolongs the action of the latter, and lessens its suddenness. L. ii./87,861; C. & D. ii./87,714; Asclepiad, Feb. 1887.

In delirium tremens, 21 cases, 15 minims of 10 per cent. aqueous solution proved useful in procuring sleep; in 6 by one injection; others after repetition every two or three hours.—B.M.J. i./88,481.

As an anæsthetic suggested admixture with ether.—M.P.C. 1887,417.

Inhalations do not affect the heart.—L. i./87,951.

Is unfitted for subcutaneous use.—B.M.J.i./87,1126.

Is very innocuous, but effect is soon lessened by use. —Pr. xxxix. 138; B.M.J. ii./87,895.

Given internally does not depress the heart.—B.M.J. i./88,481.

METHYLENE.

Syn.—Formerly called Bichloride of Methylene,

Under this name is sold an anæsthetic, which is a dense colourless ethereal liquid, with a chloroform-like odour. It is obtained by the action of metallic zinc on chloroform and alcohol.

Lectures on introducing it as an anæsthetic.—M.T.G. ii./67,423,479,559,693.

Is as suitable for long operations as chloroform.—L. i./71,591. Is peculiarly safe.—B.M.J. i./88,1211.

Used with most favourable results at Guy's Hospital.—L. i./71,634.

Given 1800 times without ill effects; it is more rapid in producing unconsciousness than chloroform, and quicker in passing off.—L. i./72,671.

By Junker's apparatus, air charged with methylene vapour is given, not the vapour itself, and, so employed, was efficient and safe.—B.M.J. ii./77,176.

Report on anæsthetics; it is a mixture; effect on rabbits described; its danger is from syncope, not coma. —B.M.J. i./79,1,3.

Deaths from inhalation of.—B.M.J. ii./74,823; ii./75,113; ii./84,826,975.

A commercial sample had Sp. Gr. 1·326, is said to be chloroform reduced to this density by alcohol.—N.R. xii.43; B.M.J. i./84,737.

Unqualified commendation after use in 1230 cases.—B.M.J. ii./88,72.

Agreeable to inhale; physiological action identical with that of chloroform; not advocated except where ether and nitrous oxide contra-indicated. Less safe than ether.—B.M.J. ii./88,203.

MOLLINUM.

Mollin.

A white inodorous superfatted soap, containing about 17 per cent. excess of fatty matter. It is of unctuous consistence, and is recommended as a basis for ointments in place of lard, lanolin, &c., as it is readily washed off with water, with which it forms a lather. It thus leaves the skin fresh and supple, and it makes no grease spots on linen. It is to be preferred to petroleum bases where absorption is required, and is specially recommended in combination with mercury, and with iodide of potassium, forming **Mollinum Hydrargyri** and **Mollinum Potassii Iodidi**; these contain 33 per cent. and 10 per cent. respectively of mercury and iodide of potassium. It is not even incompatible with perchloride of mercury, with which it forms a useful application for gynæcological cases in 1 per cent. admixture or weaker. It blends well with respectively 3 to 5 per cent. of carbolic and salicylic acid and thymol, and with tar (birch tar particularly) 10 to 20 per cent. for psoriasis;—with 30 to 50 per cent. of sulphur or 10 per cent. of storax for acne and scabies;—with 5 per cent. of chrysarobin or naphthol;—and with 10 per cent. of ichthyol, resorcin, iodoform, naphthalene, or white precipitate. Mollinum Hydrargyri and some of the other preparations are commercial products.

MORPHINA.
Morphine.

Dose.—$\frac{1}{10}$ to $\frac{1}{2}$ grain.

This alkaloid, to which the medicinal effects of opium are principally due, in the pure state is, if precipitated from an aqueous solution of its salts, a white amorphous powder, or, if crystallized from an alcoholic solution, is in white, shining, transparent acicular prisms, insoluble in water and ether, freely soluble in boiling and but slightly in cold alcohol and fixed oils; soluble in caustic potash solution, milk of lime, and readily dissolved by acids, forming salts, from solutions of which it is precipitated by ammonia, but not by potash. The crystallized alkaloid is a hydrate containing one molecule of water of crystallization; it loses about 6 per cent. on drying at 90° C. 3 parts of morphine are medically and commercially reckoned equal to 4 parts of either of the official salts (acetate and hydrochlorate). Morphine preparations are incompatible with those of perchloride of iron.

Oleatum Morphinæ.

A solution of the alkaloid morphine 1 grain in oleic acid 1 drachm, is sold under this name for local application to relieve pain. Sometimes it is ordered twice or three times the above strength. Oleic acid will dissolve as much as one-tenth of its weight of pure morphine. The addition of morphine is made to oleate of mercury applications when the latter cause much pain.—L. i./72,809.

Morphinæ Acetas (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain, which may be increased.

In commerce a white amorphous powder, soluble 1 in $2\frac{1}{2}$ of water (if recently made and not very dry), soluble also in spirit. Liable to change and darken in colour.

The dose of morphine and of opium is often much increased when persons become addicted to their use. The writer, under medical direction, for several years anterior to 1868, dispensed for a lady, who had previously been a dipsomaniac, 6 dozen powders weekly, each containing 2 grains of acetate of morphine and 6 grains of sugar of milk. She took on an average over

20 grains of the morphine salt daily for years. She had taken powders containing as much as 8 grains of pure acetate of morphine in each; the sugar of milk was added gradually to replace the morphine, hoping to break her of the habit, but this had only the effect of making her take an increased number of the powders, so as to obtain about the same amount of morphine to satisfy her craving. Other cases of tolerance of large doses.—B.M.J. ii./88,1279,1386.

Injectio Morphinæ Hypodermica (*Off.*).

Dose.—1 to 5 minims; 10 minims = one grain of the acetate.

B.P. Reprint says "commencing with from 1 to 2 minims."

Is made by precipitating the alkaloid from 92 grains of hydrochlorate of morphine by means of excess of solution of ammonia, washing the precipitate and redissolving by adding acetic acid to make the mixture very slightly acid, further adding distilled water *q.s.* to measure exactly 2 fluid ounces, and then filtering. The Pharmacopœia states that 1 drachm contains 6 grains of acetate of morphine, corresponding to 4·25 grains of morphine when precipitated with ammonia and dried.

A solution, 1 grain in 6 minims, is also frequently used. Acetate of morphine becomes less soluble with age. It is necessary either to use it freshly prepared or to use an equivalent quantity of the pure alkaloid dissolved by means of acetic acid. The writer recommends the following process for producing the injection.

Injectio Morphinæ Acetatis Hypodermica.

1 grain in 6 minims. *Dose.*—1 to 3 minims.

Morphine (pure alkaloid) ... 60 grains.

Place in an ounce vial and moisten with

Distilled Water ... ... 6 drachms.

Add

Acetic Acid ... ... 40 minims, or *q.s.*

To make the solution barely bright after being kept closed at a gentle heat for 24 hours. Then filter and sprinkle and wash the filter with sufficient

Distilled Water to make the product measure exactly... 1 ounce.

Shake to make uniform, and keep the solution from the light in stoppered bottles, the stoppers of which should be coated with paraffin wax, by first heating them and rubbing the ground part over with the wax as it melts.

If the stopper be then inserted firmly, it prevents any oozing or incrusting of the morphine around the neck of the bottle; a few drops of glycerine added, will, it is said, prevent any incrustation. It has a straw colour, changing to vinegar-brown on keeping.—P.J. 1870,481; B.M.J. ii./80,728; B.M.J. i./81,146.

Hypodermic injection of $\frac{1}{4}$ grain in a young adult caused stertor and stupor.—B.M.J. ii./85,97.

Injectio Morphinæ et Atropinæ Hypodermica.

Injection of Acetate of Morphine
(1 grain in 6 minims) ... 3 drachms.
Sulphate of Atropine... ... 1 grain.

Dose.—1 to 3 minims. 3 minims contain half a grain of acetate of morphine and $\frac{1}{60}$ grain of sulphate of atropine. Some practitioners prefer to use it half this strength. Although atropine is in many respects antagonistic to morphine, yet, given in combination with it in small doses, the former increases the sedative action and counteracts the disagreeable effects of the latter on the head, stomach, and bowels. In R.O.H. 1 grain of the atropine salt is added to 6 drachms of B.P. hypodermic injection of morphine (1 in 10).

Hypodermic Lamels contain $\frac{1}{4}$ grain **Morphine** and $\frac{1}{4}$ grain **Morphine** with $\frac{1}{120}$ grain **Atropine** respectively, combined with gelatine.

Ophthalmic discs contain $\frac{1}{500}$ grain **Morphine**, and $\frac{1}{500}$ grain **Morphine** with $\frac{1}{5000}$ grain **Atropine** respectively.

Liquor Morphinæ Acetatis (*Off.*).

Dose.—10 to 60 minims. Contains 1 per cent. of acetate of morphine in rectified spirit 24, distilled water 73, with 2 of diluted acetic acid.

Pastillus Morphinæ Acetatis ($\frac{1}{40}$ gr.).—See p. 196.

Pastillus Cocainæ ($\frac{1}{30}$ gr.) **et Morphinæ** ($\frac{1}{60}$ gr. See p. 196).

Pastillus Bismuthi Carbonatis cum Morphinæ Acetate.—See p. 196.

Morphinæ Hydrobromas.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

In commerce is met with as a white amorphous powder resembling the hydrochlorate of morphine in appearance. Sometimes administered with free hydrobromic acid as a sedative, and thought not to affect the head as much as other salts of morphine when given thus

Morphinæ Hydrochloras (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain, which may be increased. In a pill it may be combined with sugar of milk and glycerine of tragacanth.

In silky white flexible acicular prisms, but usually met with in amorphous white powder, soluble 1 in 26 of water. It is stable, and the most frequently used of the salts of Morphine.

Linctus Morphinæ, U.C.H.

Solution of Hydrochlorate of Morphine	3 minims.
Spirit of Chloroform ...	3 minims.
Treacle, Honey, or Glycerine	60 grains.
Water to	1 drachm.

Mix. May be more agreeably flavoured with syrup of lemon as a vehicle.

Dose.—A teaspoonful 3 or 4 times a day; or the dose may be repeated frequently at times when cough is troublesome, till the paroxysm is subdued. It should be taken undiluted, swallowed slowly, and allowed to hang about the throat. For children of 8 to 14 years, dose 10 to 20 drops. It is not suitable for very young children, or where there is difficulty of expectoration in bronchitis.

Liquor Morphinæ Hydrochloratis (*Off.*).

Dose.—10 to 60 minims, contains 1 per cent. of hydrochlorate of morphine in rectified spirit 24, distilled water 73, with 2 of diluted hydrochloric acid.

Suppositoria Morphinæ (*Off.*).

Contain $\frac{1}{2}$ grain of hydrochlorate in each. They are also usually kept, containing only $\frac{1}{4}$ grain, as well as other strengths.

Suppositoria Morphinæ cum Sapone (*Off.*).

Contain $\frac{1}{2}$ grain of the hydrochlorate in each also, but are never ordered, and have a bad basis.

Trochisci Morphinæ (*Off.*).

Contain $\frac{1}{36}$ grain of the hydrochlorate in each lozenge, with a sugar basis flavoured with tolu. They are more agreeable if made with black currant paste basis.

Trochisci Morphinæ et Emetin, see p. 232.

Trochisci Morphinæ et Ipecacuanhæ (*Off.*).

Contain $\frac{1}{36}$ grain of the hydrochlorate of morphine, with $\frac{1}{12}$ grain of ipecacuanha in each. These lozenges are often given to allay cough—one 5 or 6 times a day.

Morphinæ Meconas.—Meconate of Morphine.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

This is the natural salt of morphine existing in opium, and, when pure, is in white minute acicular crystals, soluble 1 in 34 of water. It is said to disturb the head less, as well as derange the stomach and bowels less, than the other salts of morphine administered either by the mouth or hypodermically.

Liquor Morphinæ Bimeconatis (*Off.*).

Dose.—5 to 40 minims.

The tedious official process may be simplified as follows:—

Morphine (pure Alkaloid)	...	13½ grains.
Meconic Acid ...	... ...	12 grains.
Rectified Spirit	... ...	1 ounce.

Mix and add

Distilled water to	... ...	4 ounces.

A perfect solution is formed instantly. One ounce is said to contain about 5½ grains or 1¼ per cent. of bimeconate of morphine, and as regards this is about the same strength as tincture of opium.

Morphinæ Sulphas (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

In hard white silky acicular crystals, is a stable salt of morphine and the one preferred in the United States. Soluble 1 in 23 of water.

Liquor Morphinæ Sulphatis. Used in the United States.

Dose.—1 drachm or more. Contains 1 grain in an ounce of distilled water. A preparation known as Magendie's solution of morphine is also used in the United States; it is 16 times stronger than the above (containing 16 grains in the ounce). Magendie's solution in France is slightly stronger than that of the United States; it contains 1 part of acetate of morphine in 37½.

Morphinæ Tartras.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

Neutral tartrate of morphine in commerce is a white amorphous powder resembling the commercial hydrochlorate. Readily soluble in water, 1 in 10; has been recommended for hypodermic injection.

Injectio Morphinæ Tartratis Hypodermica.

Dose.—1 to 6 minims.

Tartrate of morphine	...	30 grains.
Distilled water ...	...	6 drachms.

Dissolve.

Hypodermic Lamels of Morphine Tartrate contain $\frac{1}{6}$ grain, also $\frac{1}{6}$ grain, combined with **Atropine**, $\frac{1}{100}$ grain.

References.

Antagonism of atropine, $\frac{1}{20}$ grain = 1 grain of morphine in cases of poisoning; small doses of the former should be frequently repeated hypodermically.—B.M.J. i./81,239.

Antagonism of caffeine, coffee, tea, &c., to morphine. —B.M.J. ii./74,615,674,679,771.

Picrotoxin an antidote.—L. i./89,497; P.J. 1889,703.

Opium and morphine may poison infants through the mother's milk; see a case in B.M.J. ii./85,1159.

Administration of morphine previous to anæsthesia is not without danger from respiratory paralysis.—Pr. xxxix. 103.

Hypodermic injection close to affected joint successful in gout.—Pr. xl.61.

Puerperal convulsions, 1 grain injected successful in 2 cases.—B.M.J. i./89,588.

Discussion on the largest safe dose and the smallest fatal one.—B.M.J. i./89,895.

Morphine in diabetes as compared with Codeine;—more powerful, controlling the formation of sugar more completely; amount required only $\frac{1}{4}$ that of codeine; narcotic symptoms rarely follow when given every 3 or 4 hours by mouth (not applicable to hypodermic administration). (Mitchell Bruce). — Pr. xli.16; Th. Gaz. Sept. 1888,618.

These results confirmed by Fraser.—Pr. xlii.,374; B.M.J. i./89,118; Y.B. 1890,307.

MUSCARINÆ NITRAS.

Nitrate of Muscarine.

Dose.—(?) $\frac{1}{2}$ to $\frac{3}{4}$ grain hypodermically causes free perspiration, &c., like Pilocarpine.

Muscarine is an uncrystallizable alkaloid obtained from the fungus, fly agaric—*Agaricus* or *Amanita muscaria*; it has also been obtained, as a derivative, from brain substance. Nitrate of Muscarine, the only preparation met with in commerce, is also uncrystallizable; it is a viscid, yellowish brown liquid, hygroscopic, and soluble in water.

It resembles Pilocarpine in action and is almost completely antagonistic to atropine, one exception being that, applied topically to the eye, it dilates the pupil, like gelsemium, but given internally it contracts it. It produces salivation, perspiration, flow of tears, and purgation.—R.; Pr. xxvi.5. Further, see Das Muscarin, Schmiedeberg und Koppe (Leipzig, 1869; F. C. Vogel).

Useful in checking night sweating. Ext. Muscariæ was used.—Pr. xxv.89.

Atropine is an antidote to the effects of poisonous mushrooms, $\frac{1}{120}$ grain injected hypodermically and repeated if necessary until the dyspnœa is relieved.—B.M.J. ii./74,617.

Physiological experiments—its antagonism to atropine.—Trans. Med. Congress, 1881, i.508; B.M.J. ii./82,529.

Note on its physiological action.—L. i./83,336.

Poisons the heart-muscle itself, and the heart becomes arrested in diastole.—Pr. xxxix. 212.

Resemblance of symptoms of muscarine poisoning to those of cholera, and suggested use of atropine for the latter.—B.M.J. ii./74,617; i./89,1335.

MYRICIN.

Dose.—2 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive obtained from the bark of stem and root of bayberry, *Myrica cerifera*. Is astringent and stimulant, in large doses emetic—used in diarrhœa and jaundice.

References.

On the dog is a very powerful stimulant of the liver. During the increased secretion of the bile, the percentage of the special bile solids is not diminished. If the dose be too large, the secretion of bile is not increased. It is a powerful intestinal irritant.—B.M.J. Rep. 1878,4; B.M.J. i./79,177.

NAPHTHOL.

β-Naphthol. *Syn.*—NAPHTHYL ALCOHOL.

Dose.—2 to 15 grains.

A coal-tar derivative with a faint storax odour; when sublimed, is in white shining laminar crystals, soluble in alcohol, ether, chloroform, and benzene, sparingly soluble in hot water, but soluble 1 in 8 of olive oil and lard, and 1 in 80 of vaseline. Has the advantage in skin diseases generally of being odourless and colourless. It is a powerful antiseptic and germicide. In advanced scabies, an ointment of 10 to 15 per cent. cures the eczema as well as destroys the parasite, but the following ointment is preferred:—Naphthol 15, lard 100, green soap 50, prepared chalk 10. Useful also in psoriasis.—B.M.J. ii./81,612; B.M.J. i./82,47,156.

Naphthol 5, alcohol 100, glycerine 10, is a remedy for hyperidrosis of palms, soles, and axillæ.—Pr. xxxi.219.

Internally, useful in enteric fever; safe and efficient, but sometimes causes too much gastric disturbance.—Pr. xli.421; P.J. 1888,507; Th.Gaz. Oct.1889,702.

Doses of 5 grains relieve constipation.—Th.Gaz. 1889,669.

A valuable antiseptic; useful in gastric disorders and diarrhœa of typhoid. Inhalations of service in pharyngitis, catarrh, and bronchitis.—Th.Gaz. Oct. 1889,669.

α-Naphthol has also been recommended as a powerful antiseptic, and as possessing only one-third the poisonous action of the β-Naphthol.

Acidum α-Oxynaphthoicum. α-Oxynaphthoic **Acid.** *Syns.*—α-NAPHTHOL-CARBONIC ACID, α-CARBONAPHTHOLIC ACID.

Dose.—?

An acid allied to salicylic acid, formed by the simultaneous action of sodium and carbon dioxide on naphthol. Is five times stronger an anti-zymotic than salicylic acid, 1 in 20,000 preventing putrefaction of meat solution. It has been used in place of iodoform; is mildly caustic and stimulant. A solution of $\frac{1}{3}$ to 1 per cent. with sodium phosphate, has been used for vaginal injection.—B.M.J. ii./88,1002; L. i./89,1157; P.J. 1888,425; Th. Gaz. July,1889,503.

Naphthol cum Camphora. Naphthol Camphor.

β-Naphthol 1, Camphor 2, mix to form a viscid liquid, miscible with oils. It is a powerful non-toxic antiseptic for wounds, and is said to clean off the false membrane in diphtheria. A weaker preparation has been used with success as an interstitial injection in phthisis. Recommended to smear over and protect surgical instruments.—B.M.J. ii./89,791; P.J. 1888,247; 1889,62; Th. Gaz. Dec. 1888,841; Oct. 1889,674; C. & D. i./89,654.

Naphthol-Acetate of Mercury.—See p. 208.

Hydronaphthol.

A commercial article is sold under this name as a specialty. It is in greyish-white crystalline powder, with a slight iodine odour. It appears to be of indefinite composition, but when purified by repeated crystallization, a substance corresponding to β-naphthol is obtained. It is recommended as a non-poisonous antiseptic in solution or dusting powder, and wool, gauze, and lint impregnated with it are also prepared as surgical dressings. Experiments as to its antiseptic value.—B.M.J. i./89,1047. Use of hydronaphthol plaster and jelly in tinea tonsurans. —L. ii./89,1110.

Betol. *Dose.*—3 to 8 grains in cachets or pills, or suspended in almond emulsion or milk.

The salicylate of β-Naphthol-ether. Is in small tasteless and odourless, brilliant white crystals, insoluble in water, soluble in alcohol. Useful in rheumatism, cystitis, and intestinal catarrh.—Th. Gaz. Nov. 1887,774.

Bougies of Betol 1 part, cacao butter 4 parts, have proved useful in gonorrhœa.

Naphthalene. *Dose.*—2 to 15 grains or more in cachets or pills with mucilage and syrup.

A hydrocarbon formed in large quantities in the manufacture of coal gas. It is when pure in shining white rhomboid crystalline plates, free from strong tarry odour; it is insoluble in water, acidulated or alkaline, but is soluble in ether, hot alcohol, and in fats, fixed and volatile oils.

Naphthalene Tetrachloride. *Syn.*—NAPHTHALIN HYDROCHLORATE. *Dose.*—3 to 12 grains, in cachet or pills. In odourless and colourless rhombohedral crystals, melting at 182° C. insoluble in water.

α-**Dichloronaphthalene,** in small granular crystals, is obtained by the action of alcoholic potash on the above. Melts at 35° C.

As Naphthalene is not absorbed by the system it acts only on the mucous membrane of the bowels. It forms a valuable remedy in dysentery, catarrhal, typhoid, and phthisical diarrhœa.—Ed. M. J. April, 1888, 952; L. ii./87,777; ii./88,1252; ii./89,659. 8-grain enemata useful.—L. i./88,1327.

As an antiseptic has similar uses to iodoform, but has an unpleasant smell.—Th. Gaz. Nov. 1887,775.

Is painless in action, and promotes healing of ulcers.—B.M.J. i./86,217.

Given internally with success to lessen fœtor of urine and stools.—L. ii./86,744; ii./87,605.

Peculiar ocular defects (cataract) in guinea pigs.—Th. Gaz. April, 1888,260; L. ii./89,1024.

Causes catarrhal symptoms when given internally to rabbits.—B.M.J. i./87,800.

Is used in Samarcand as a vermifuge.—L. ii./86,462.

Capsules used with success for incontinence of urine.—Ed. M.J. Dec. 1887, 567; Th. Gaz. Sept. 1887, 610.

Used in antiseptic dressings with success as an alternative to iodoform.—B.M.J. ii./82,1051.

A 10 to 20 per cent. solution in oil is successful as a parasiticide in scabies, but does not relieve the secondary eruptions.—L. ii./82,909.

Naphthalene of great temporary value in infantile diarrhœa and fetid urine—L. ii./89,720,766.

NARCEINA.

Narceine.

Dose.—⅛ to ½ or 1 grain, in a pill.

An alkaloid obtained from opium in light white, flexible silky crystals. Has a slightly bitter taste—is a weak base, soluble 1 in 400 of water, very soluble in spirit, insoluble in ether. It is a soporific, produces no constipation, less headache and perspiration than morphine.—R.

References.

More soporific than morphine and codeine, and the sleep more profound.—L. i /66,250.

Hypnotic use of, and to check cough of pertussis.—B.F.M. Ch.R. ii./66,526; Th.Gaz. 1888, May, 359.

Causes sleep rather than allays pain, used as a sedative in violent cough.—B.F.M. Ch R. i./67,527.

Prosopalgia (faceache) cured by hypodermic use of.—B.F.M. Ch.R. i./72,127.

The most soporific of the opium bases, and less poisonous than thebaine, codeine, and papaverine.—B.F.M. Ch.R. i./72,509.

Is a pure but feeble narcotic, 5 grains or more are required to produce slight tendency to sleep.—Pr. i./63, 289; P.J. 1887,882.

Tests for purity of.—P.J. 1889,1035,335,401.

NARCOTINA.

Narcotine.

Dose.—1 to 3 grains, or more, in a pill with glycerine of tragacanth.

An alkaloid obtained from opium, in white inodorous crystalline prisms. It is a very weak base, insoluble in water, soluble 1 in 3 of chloroform, 1 in 100 rectified spirit, 1 in 125 ether, soluble also in benzene. Possesses antiperiodic properties, like quinine, some considering it superior, in doses of 1 to 3 grains.—R.

References.

Antiperiodic in remittent fever. 1½ to 3 grains; in doses of 10 grains, produces diaphoresis.—L. i./62,53.

In India, for ague, considered second only to quinine. —M.T.G. ii./62,203.

In 8-grain doses has no narcotic nor anæsthetic effect.—Rank. ii./72,125.

NICOTINA.

Nicotine.

Dose.—$\frac{1}{6}$ to 1 grain.

A colourless volatile liquid alkaloid, obtained from tobacco—*Nicotiana Tabacum.* Darkens with age, has a strong, disagreeable odour, soluble in water, more so in rectified spirit and ether.

References.

Tetanizes the heart, has been highly praised for tetanus. Many recorded cases appear to show its usefulness in this disease.—R.

Physiological effects.—B.F.M.Ch.Rev. i./56,243.

Is an antidote to strychnine.—Rank. ii./66,225.

NITROGLYCERINUM.

Nitroglycerine. *Syn.*—GLONOINE; TRINITRATE OF GLYCEROL; NITRIC ETHER OF GLYCERINE (formerly considered as the Trinitrite of Glycerol or Nitrous Ether of Glycerine); TRINITRINE.

Dose.—$\frac{1}{200}$ to $\frac{1}{50}$ grain increased to $\frac{1}{10}$ grain.

This dangerous explosive substance proves to be of great medicinal use, especially in angina pectoris. It is obtained by gradually dropping pure glycerine into a mixture of sulphuric and fuming nitric acids kept cool by iced water. The Nitroglycerine is separated by pouring the mixture into a large quantity of water, and well washed by agitation with several supplies of cold water, till free from acidity. It is then collected as a dense, opaque, white, oily liquid, and carefully dried in thin layers in a warm room, when it becomes dehydrated, transparent, and colourless, and of Sp. Gr. 1·600. It drops in very small drops. It has no odour, yet is slightly volatile, has a sweet, aromatic, pungent taste, and produces headache, which, if dose be large, lasts some hours. It is slightly soluble in water, freely soluble in ether, 1 in 6 of almond oil, freely soluble in absolute alcohol, and 1 in 15 of rectified spirit. Three parts mixed with and absorbed by one part of an infusorial earth, so as to become solid, forms Dynamite, which is much used for blasting purposes. The alcoholic solution, containing 1 per cent., was first used medicinally; but, as complaints were made to the writer that it was inconvenient for patients to carry a liquid medicine about with them, as they were required to do, to ward off attacks of angina, he, having discovered that nitroglycerine was soluble in oils and fats, dissolved it in oil of theobroma and combined this with chocolate to form tablets, which he adjusted in strength to contain $\frac{1}{200}$, $\frac{1}{100}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain of Nitroglycerine in each. Those containing $\frac{1}{100}$ grain are the most suitable for general use. The fatty basis can also be made into white transparent coated pills containing doses similar to the tablets. A one per cent. oily solution is recommended as being more stable than the alcoholic solution. Nitroglycerine, especially if not perfectly pure, is liable to explode spontaneously, but in fatty or oily solution it is perfectly safe and stable.

Nitroglycerine, in two minutes after taking a dose, accelerates the pulse, relaxes the arteries, produces a feeling of fulness all over the body, but particularly in the head by a throbbing at the sides of the temples. It also causes headache, which lasts from 15 minutes to several hours, according to the quantity taken; but to patients accustomed to its use the headache is not felt. In treating angina pectoris, neuralgia, asthma, headache, sea-sickness, and Bright's disease, its action is like nitrite of amyl, but its effects last much longer. For the weak heart of fatty degeneration and of old persons, this lessened tension proves valuable.

Nitroglycerine acts more powerfully than other nitrites, probably because the whole of it is absorbed without decomposition, and because the nitrous acid is thus set free in the blood itself.—Brunton.

Injectio Nitroglycerini Hypodermica.

Dose.—1 to 4 minims.

Nitroglycerine Solution (as below)	5 drachms.
Rectified Spirit	2 drachms.
Distilled Water to	1½ ounces.

Contains about $\frac{1}{240}$ grain in 1 minim. Acts promptly; useful in collapse, &c., when the patient cannot swallow.

Liquor Nitroglycerini, 1 per cent.

Dose.—½ to 2 minims, gradually increased to 10 minims, if necessary, every 3 or 4 hours, in any aqueous vehicle.

Nitroglycerine	1 ounce.
Rectified Spirit to	100 ounces.

Dissolve. A five and a ten per cent. solution in absolute alcohol are also prepared commercially, but they are not safe for use in dispensing.

Oleum Nitroglycerini, 1 per cent.

Dose.—1 to 2 drops or more on sugar.

A solution in almond oil.

Pilula Nitroglycerini.

Is made with the theobroma-oil basis to contain $\frac{1}{100}$ to $\frac{1}{50}$ grain or more.

Tabellæ Nitroglycerini, Nitroglycerine Tablets (*Off.*).

Syn.—Trochisci Nitroglycerini, L.H.

Introduced by the writer in 1878, now recognised as official, $\frac{1}{100}$ grain in each. The tablets have the nitroglycerine in solution in chocolate, in a perfectly safe, stable, and palatable form.

Dose.—One tablet every three or four hours to relieve or ward off attacks of angina pectoris, sea-sickness, neuralgia, Bright's disease, headache, &c. A tablet should be eaten and quickly swallowed when an attack of angina threatens; for this their use is preferable to the pills, which require a few minutes to dissolve. A dose of any preparation of nitroglycerine acts more promptly if taken on an empty stomach.

The tablets are also prepared containing $\frac{1}{75}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain, and 1 milligramme respectively, for those accustomed to their use, as well as $\frac{1}{200}$ and $\frac{1}{400}$ grain in each, for administration to ladies, delicate persons and children, for whom this is a sufficient dose to ward off sea-sickness. The tablets appear to be non-poisonous even to children; a surgeon informed the writer that on one occasion two children, one three and the other six years of age, ate between them straight away two dozen, $\frac{1}{100}$ grain in each, without any injurious effects.

They are attractive in appearance, and cannot be distinguished by the taste alone from ordinary chocolate creams.—L. i./79,850.

In a case of angina pectoris in which they were prescribed the relief afforded was most marked. . . . . They are certainly active; whilst they are agreeable to the taste.—B.M.J. i./79,899.

Fifty per cent. of cases of sea-sickness are benefited by the nitroglycerine tablets.—B.M.J. ii./80,512,691.

The tablets are the most convenient and ready method of using nitroglycerine.—B.M.J.ii./81,424.

The best method of administration is in the form of lozenges. They should be taken when the patient is threatened with an attack of asthma; or, if the attacks occur in the night, at bedtime, or whenever the patient wakes.—B.M.J. ii./81,543.

Tabellæ Nitroglycerini Compositæ, Westminster Hospital Pharm.

Contain Nitroglycerine $\frac{1}{100}$ grain, Nitrite of Amyl $\frac{1}{4}$ grain, Menthol $\frac{1}{50}$ grain, Capsicum $\frac{1}{100}$ grain.

Cases of angina pectoris treated with success in doses of one minim of 1 per cent. solution of nitroglycerine, upwards to, in one case, 10 minims every 3 or 4 hours, or as attacks required it.—L. i./79,80,115,151,225. *Reprinted as* "Nitroglycerine in angina pectoris," by W. Murrell.

Two minims of 1 per cent. solution every 3 or 4 hours, or 5 minims when an attack threatened in a case of angina pectoris gave complete relief—great boon to sufferer, who had perfect confidence in being able to control attacks.—L. i./79,578.

Checks the paroxysms of angina, $\frac{1}{100}$ to $\frac{1}{50}$ grain every 4 hours. The dose may be increased up to $\frac{1}{5}$ grain.—Pr. xxii.208; Br. ii./79,xxix.

Studies on its therapeutic uses.—B.M.J. i./80,406,487; M.R. 1883,87; Th. Gaz. Nov. 1887,769.

Bright's disease, acute and chronic, and in vascular tension of the aged, the 1 per cent. solution in dose of 1 to 3 minims was successful.—B.M.J. ii./80,803.

Myxœdema, case of, treated successfully with $\frac{1}{50}$ grain doses of nitroglycerine in conjunction with elaterium purgings.—L. i./82,440.

Puerperal convulsions, $\frac{1}{100}$ grain every hour arrested in 4 or 5 doses. Nitroglycerine also acts as an aperient, causing free evacuation of the bowels.—B.M.J. i./82,573.

The alcoholic solution 1 per cent. relieves toothache applied on cotton wool in the cavity of a carious tooth.—Pr. xxvii.285.

In epileptic vertigo, 1 to 2 minim doses of 1 per cent. solution quite relieved.—Pr. xxx.105.

In migraine, due to anæmia, a minim of 1 per cent. solution repeated every half-hour, if desirable, useful also in epilepsy, especially in cases of *petit mal* given in conjunction with bromides.—New York Med. Jour. Dec. 1882,662.

In a case of angina pectoris, the effect of 1 per cent. solution in 1 to 3 minim doses compared with that of nitrite of sodium.—Pr. xxx.179,321.

In uræmic asthma, $\frac{1}{100}$ grain doses thrice daily, was useful.—B.M.J. i./83,811.

In chronic albuminuria, $\frac{1}{100}$ grain every 3 or 4 hours, found useful.—M.T.G. i./84,538.

On account of its stimulating effect on the heart and blood vessels, is recommended as a substitute for alcohol where brandy is indicated; dose is small and tasteless, and its action is almost immediate. Useful in collapse from chloroform, or typhoid and other fevers, shocks from accidents, and nausea and faintness from surgical operations.—L. ii./85,257. Further therapeutic researches. Strychnine, ergot, and belladonna recommended as antidotes.—L. i./89.1238,1297.

In nephritis, it increases the amount of urine, whilst lessening the amount of albumen.—Pr. xxxiv.67; L. ii./85,733; Th. Gaz.1888,May,355.

Asthmatic fits, found to give more relief than any other drug, even in cases of weak heart.—M.P.C. i./86,6.

Its administration relieves morphine craving.—L. i./87,1278.

Case of apparent death, woman resuscitated by ten drops of hypodermic solution.—P.J. 1886,509; M.P.C. 1887,36.

In epilepsy the frequency of attacks is lessened by its use.—Th. Gaz. April, 1888,257. Pr. xl.466.

Paroxysmal headaches much improved and made less frequent.—L. ii./87,1135; i./88,1195 (tablets used).

In dyspnœa is preferred to other nitrites.—Intern. Jour. Med.Sci.Oct.1887,393; Feb.1888,122.

In tinnitus aurium, doses of $\frac{1}{100}$ grain found useful.—Pr. xl.232.

Poisoning by eating two "bobbins" of dynamite which would be about 4 inches long by $\frac{3}{4}$ inch diameter.—L. ii./88,1102.

Most rapid alleviant in angina pectoris.—L. i./90,240.

NUX VOMICA.

Nux Vomica (*Off.*).

Dose.—1 to 5 grains in powder.

The galenical preparations of the seeds of *Strychnos Nux-vomica*, are now required to be standardised.

Extractum Nucis Vomicæ (*Off.*).

Dose.—¼ to 1 grain (but often less).

The powdered seeds are percolated with a mixture of distilled water 1, rectified spirit 4 (this mixture exhausts Nux Vomica better than rectified spirit alone), and the percolate concentrated by distillation and evaporation to an extract, which must contain 15 per cent. of total alkaloids. By dissolving 133 grains of this extract in distilled water 4 ounces and rectified spirit *q.s.* to form a pint, it forms :—

Tinctura Nucis Vomicæ.

Dose.—10 to 20 minims (or often less). One ounce contains one grain of Nux Vomica alkaloids.

Tinctura Ignatiæ. *Dose.*—3 to 20 minims.

From St. Ignatius' Beans, the seeds of *Strychnos Ignatii* (allied to Nux Vomica), 1 part, and a mixture of rectified spirit 3 and water 1, *q.s.* to produce 10 parts.

Gouttes Amères de Baumé (Codex), 1 in 2. *Dose.*—1 to 8 minims.

Strychnina.—See p. 354.

OLEATA.

Oleated Preparations.

Acidum Oleicum, Oleic Acid (*Off.*).

A pale-sherry-coloured oily liquid (at ordinary temperatures) with a slight but not disagreeable odour, obtained by the saponification of olein, or by the action of superheated steam on fats, and afterwards separating by pressure the liquid oleic from the solid fatty acids. It is faintly acid to test paper, insoluble in water, but is dissolved readily by rectified spirit, ether, chloroform, benzol, and fixed oils ; it dissolves most metallic oxides, thus forming indefinite oleic solutions of oleates in an excess of Oleic Acid ; such combinations of bismuth, copper, lead, mercury, and zinc are used medicinally ; they are soluble in oils, fats, and petroleum ointments. Those of mercury and zinc are most in request. Oleic Acid also dissolves alkaloids, but not their salts, *e.g.* Oleate of Aconitine (see Aconitina, p. 37), Oleate of Atropine (see Atropina, p. 67), Oleate of Morphine (see Morphina, p. 255), and Oleate of Veratrine (see Veratrina, p. 376), are used medicinally. One part of Quinine (alkaloid) is dissolved by 3 of Oleic Acid forming **Oleatum Quininæ**, which is applied externally and is readily absorbed, and 8 grains (=2 grains of Quinine) added to one ounce of cod liver oil forms Oleum Morrhuæ cum Quinina. Oleic Acid, although a derivative of oils, is much more readily absorbed by the skin than oils. It also aids the absorption of drugs with which it is combined.

Résumé of the use of the oleates and their preparation. —B.M.J. ii./84,749.

Lipanin.

Under this name a mixture of olive oil with six per cent. of oleic acid has been used in Germany as a substitute for cod liver oil. It is claimed that it emulsifies and assimilates more readily than the latter.—Pr. xliii.357; P.J. 1888,163.

Oleanodyne.

A special preparation combining the alkaloids aconitine, atropine, morphine, and veratrine, with oleic acid. It is rapidly absorbed, and forms a strong anodyne liniment, which can be diluted with chloroform, rectified spirit, or oils. It is not so compatible with compound camphor or soap liniment.

Cupri Oleas.

Is best prepared by the double decomposition of a hot solution of sulphate of copper, 3 in 8 of water, added to a hot solution of Castile soap 8 in 32, washing and drying the pasty precipitate. When cold it is in solid dark-green masses. It is in reality an oleo-palmitate of copper; may be employed as a plaster for warts and corns.

Unguentum Cupri Oleatis.

Oleate of Copper	1 ounce.
Petroleum Cerate (p. 287)...	4 ounces.

Melt and stir till cold. A softer ointment may be made by using vaseline as the basis, and for some purposes it may be employed half the above strength.

Is specially useful in ringworm lightly rubbed in night and morning,—for indolent ulcers, warts and corns, and is recommended for removing freckles.—M.R. 1882,449; P.J. 1882,303; L. i./83,250; Edin.Med. Jour. 1884,566.

Oleatum Hydrargyri (*Off.*). 10 per cent.

Yellow Oxide of Mercury ...	1 part.
Oleic Acid	9 parts.

Into the acid, kept agitated in a mortar, sprinkle the oxide gradually, and stir frequently during 24 hours, until the latter is all dissolved and a light brown unctuous jelly is formed.

Oleatum Cocainæ, see p. 133.

Oleatum Hydrargyri (10 per cent.) **cum Morphina.**

Pure morphine, one grain, is dissolved in a drachm of the above. Linimentum Hydrargyri Oleatis cum Morphina, U.C.H.; R.O.H.; T.H. are prepared from the 5 per cent. oleate.

Oleatum Hydrargyri, 5 per cent. (liquid), and 20 per cent. (unctuous), **U.C.H.**

Are prepared respectively with one-half and twice as much oxide as the 10 per cent., and when ordered with morphine 1 grain is added to each drachm of the oleate when dispensed. These preparations do not keep well with the morphine in combination. The 10 per cent. is always dispensed unless one of the others is specially ordered. It is also the official Oleatum Hydrargyri, U.S. These oleates should be applied with a brush, or lightly spread over the part with the finger, and covered with a linen rag or silk handkerchief; otherwise, if used with much friction, they may cause some cutaneous irritation. The addition of morphine is indicated where there is pain in the part, or the simple oleate itself causes much pain. The case and the age of the patient will indicate which strength of oleate should be used. As a rule, according to the size of the part affected, 10 to 30 drops, or a piece from the size of a bean to a nut, should be rubbed in twice a day for 4 or 5 days, then at night only, afterwards every other day till cured. The application does not salivate unless used in excessive quantity. In persistent inflammation, especially of glands, and joints (such as synovitis), and in non-ulcerated syphiloderma, the Oleates of Mercury are much more active, definite, and cleanly, than the mercurial ointment, which is dirty and uncertain.—L. i./72,709.

In syphilitic affections it is most serviceable, being a certain and less disagreeable cutaneous application than ointments, and really hastens the subsidence of papules and other disfigurements of exposed parts of the skin; is also a very effective parasiticide in pediculi.—Pr. x.204.

Cases of ringworm, one on scalp, cured by 10 per cent. Oleate. It is a certain, painless remedy, produces no stain, and it destroys the fungus, as it readily permeates the sebaceous glands, hair follicles, and even the hairs themselves. Its penetrating power may be increased by adding one-eighth of ether.—L. ii./73, 227.

Ringworm of scalp—the most inveterate cases which had existed for years cured by Oleate of Mercury, 5 per cent. for under 8 years, 10 per cent. for over that age; one-seventh of acetic ether added to it, increases its penetrating power, causes little pain, very often none.—L. i./80,126.

An Oleo-Palmitate of Mercury may be made by the double decomposition of perchloride of mercury and Castile soap. It is an opaque, yellowish, viscid unctuous body, about twice the strength in mercury of the 20 per cent. preparation made by direct combination. It is recommended to be diluted with from 1 to 3 or more parts of an unctuous petroleum such as vaseline for use. It is not a satisfactory pharmaceutical preparation.

Emplastrum Hydrargyri Oleatis.

Lead Plaster	6 ounces.
Melt and add	
Oleo-Palmitate of Mercury	2 ounces.

Mix. Is a useful substitute for mercurial plaster, and for strapping up joints requiring the constant application of Oleate of Mercury.

Oleatum Plumbi.

Lead Plaster, B.P., is a crude Oleate of Lead, made by the combination of olive oil (oleate and palmitate of glyceryl) and oxide of lead heated together in the presence of water. Thus made, the oleate possesses more adhesiveness than when prepared by the oleic acid solution of the oxide.

Plumbi Stearas.

This can be prepared by adding solution of subacetate of lead 2, diluted with boiling water, to a hot solution of curd soap, 1 in 8 of distilled water, washing the pasty precipitate, drying and reducing to powder. It is a white, or almost white, powder, and may be employed as a dusting powder to allay itching of the skin, acute and chronic eczema—is better diluted with kaolin or starch, 1 to 2 or 4 of latter powders, or a mixture of them.

The following ointment was largely prescribed by the Viennese skin physician, Hebra, as a remedy for eczema, excessive perspiration of the feet, &c. It is in reality an oleate of lead ointment.

Unguentum Diachyli (original formula).

Olive Oil	15 ounces.
Boiling water	32 ounces.

Heat, and add gradually,

Litharge in powder... ...	3¾ ounces.

Continue the heat, adding more water if necessary, and stir constantly till combined, and while cooling. When cold stir in

Oil of Lavender	2 drachms.

In cold weather an extra ounce of oil should be allowed for every pound of ointment. It should be rubbed in 1 to 3 times a day, or spread on linen and applied as a plaster.

The writer modified this as

Unguentum Plumbi Oleatis, U.C.H.

Adopted as **Unguentum Diachyli**, P.G. 1882.

Lead Plaster	½ ounce.
Olive Oil (by weight) ...	½ ounce.

Melt together. But, as both the above are prone to become rancid, he further, in 1875, modified it, when he introduced vaseline to the medical profession, by suggesting its being made as follows:—

Unguentum Diachyli, B.S.H.

Lead Plaster }
Vaseline } of each ½ ounce.

Melt together and stir till cold. Made thus, the ointment keeps well, and does not acquire a disagreeable odour.

Kaposi (son-in-law of Hebra) has adopted this, when perfumed with oil of bergamot, as *Unguentum Vaselini Plumbicum*.—Pr. xxii.124; Br. i./79,lix.

Oleatum Zinci (*Off.*).

Oxide of Zinc	... ...	1 ounce.
Oleic Acid ...	... ...	9 ounces.

Mix and heat together till combined.

Chartazinc.

Tissue paper impregnated with oleate of zinc; this hastens the healing process and is a healthy stimulant to chronic ulcers, especially those of long standing, and large sores left after burns.—B.M.J. ii./78,691.

Unguentum Zinci Oleati (*Off.*).

Oleate of Zinc } of each 1 ounce.
Vaseline }

Melt together and stir till cold. For some cases further dilution with vaseline is advisable. This ointment, having the zinc in solution, has the advantage over zinc ointment B.P., in most cases in which the use of this is indicated, in not coating the sore, to which it is applied, with a crust of débris, which checks healing and irritates the part on removal.

Chronic eczema, cases of, cured by above ointment.—B.M.J. ii./78,622; B.M.J. i./79,652.

Further, found useful in eczema; one drop of otto of rose covers its faint smell.—B.M.J. i./79,586.

When required to be spread on lint or rag, the following harder ointment is preferred; it does not liquefy or ooze through the dressing and grease the patient's clothes; as it sticks more firmly to the dressing than to the skin, on removal, the wound or sore is left free from any adhering ointment, &c., but it is not adapted for smearing on a sore.

Unguentum Zinci Oleati Durum.

Oleate of Zinc } of each 1 ounce.
Petroleum Cerate (p. 287) }

Melt together and stir till cold.

The **Metallic Oleates** may be made by the double decomposition of a soluble metallic salt and Castille soap (as oleate of copper, p. 272). Thus made, the Oleates contain no free oleic acid, but they are more contaminated by palmitates than if prepared by direct combination of the oxide with free oleic acid. A zinc preparation of this kind is prepared as follows:—

Pulvis Zinci Oleatis.

Castille Soap	1 lb.
Boiling Water	6 pints.

Apply heat till dissolved.

Sulphate of Zinc	7 ounces.
Boiling Water	16 ounces.

Dissolve and add to above solution; stir well, separate the water from the Oleate floating on the top, and wash the latter with hot water till free from sulphate, then cool, dry, and reduce to fine powder. It resembles powdered French chalk in appearance, and is useful for dusting on eczematous surfaces and parts troubled with excessive perspiration. It may be perfumed by the addition of $\frac{1}{500}$ of thymol, and diluted with kaolin or starch. It is *the* remedy for hyperidrosis and osmidrosis. — L. i./82,974; M.R. 1882,449.

OLEUM GYNOCARDIÆ.

Chaulmoogra Oil.

Dose.—2 to 15 grains, filled into empty capsules or in cod-liver oil or milk.

The oil expressed from the seeds of *Gynocardia odorata*, imported from India. It has a pale brownish colour and a disagreeable taste and smell. It is always solid and unctuous in this climate, as it contains a quantity of palmitic acid, with three other fatty acids; of these **Gynocardic Acid** is supposed to be the active ingredient of the oil. *Dose:*—½ to 3 grains. The oil is applied externally, and given internally *after meals* for leprosy, phthisis, and scrofula, marasmus, psoriasis and lupus. For chronic rheumatism and rheumatic gout it forms a useful application with gentle friction. For phthisis 2 to 4 ounces should be rubbed into the chest weekly.—B.M.J. i./81,475,559; i./79,431,968; B.M.J. ii./80,844; Pr. xxi.321, xxii.241; L.ii./87,604.

In old standing eczema, with thickening of the skin, applied pure or as an ointment was useful.—Pr. xxvi.55.

Unguentum Gynocardiæ, Chaulmoogra Ointment.

Chaulmoogra Oil	1 ounce.
Petroleum Cerate	3 ounces.

Melt and stir till cold.

OLEUM MORRHUÆ.

Cod Liver Oil (*Off.*).

Emulsio Olei Morrhuæ, B.P.C.

Dose.—2 to 8 drachms.

Cod Liver Oil...	8 ounces.
The Yolks of Two Eggs.	
Tragacanth, in powder ...	16 grains.
Elixir of Saccharin	1 drachm.
Simple Tincture of Benzoin ...	1 drachm.
Spirit of Chloroform	4 drachms.
Essential Oil of Bitter Almonds	8 minims.
Distilled Water ...	*q.s.* to 16 ounces.

Measure five ounces of water, place the tragacanth in a dry mortar, and triturate with a little of the cod-liver oil; then add the yolks of eggs, and stir briskly, adding water as the mixture thickens. When of a suitable consistence, add the remainder of the oil and water alternately, with constant stirring, avoiding frothing. Transfer to a pint bottle, add the other ingredients, previously mixed, shake well, and add water, if necessary, to produce 16 ounces.

Hypophosphites of Sodium and Calcium, of each 1 grain, may be contained in a drachm of the above if desired.

Morrhuol. Prepared from Cod Liver Oil by treatment with 90° alcohol, decanting and distilling off the alcohol. Said to be an acrid bitter but aromatic liquid containing phosphorus, iodine, and bromine in peculiar combination.

Dose.—In capsules containing 0·20 grammes, 1 or 2, each equal to 5 grammes of the oil.

OLEUM SANTALI.

Oil of Sandalwood (*Off.*). *Syn.*—Oleum Santali Flavi, Yellow Santal Oil.

Dose.—10 to 30 minims.

The oil distilled from the wood of *Santalum album.*

A yellowish liquid, with a somewhat roseate odour, and an aromatic bitterish, slightly acrid taste. Has been employed in the treatment of gonorrhœa and gleet.

It quickly checks the discharge in dose of 15 minims 3 times a day.—Pr. xxvii.440.

In 100 cases of gonorrhœa employed with satisfactory results.—Glasgow Med. Jour. April, 1865.

In 19 cases of gleet, 13 with marked benefit; in 6 it failed; but in 4 of the latter the stomach could not bear the full dose.—B.M.J. ii./67,7.

Taken internally in conjunction with the use of iodoform and eucalyptus bougies, with success.—L. ii./82,215.

Capsules of Santal Oil are prepared, containing 10 minims in each, or it may be administered as an emulsion, *e.g.*

Mistura Olei Santali.

Oil of Sandalwood	...	2 drachms.
Tragacanth, in powder	...	30 grains.
Mix. Add quickly		
Water to	...	8 ounces.

Shake well. Aromatic water or syrup may be used.
Dose.—One ounce.

PANCREAS.

In the pancreatic juice of man four distinct digestive ferments are believed to be contained, viz. :—

a. Trypsin—changes proteids into peptones in alkaline and neutral media.

b. Curdling Ferment—curdles the casein of milk.

c. Pancreatic Diastase—changes starch into sugar and dextrin.

d. Emulsive Ferment—emulsifies and partially saponifies fats.

B.M.J. ii./79,683; B.M.J. i./80,540.

For invalids, aged persons, and those suffering from weak digestion, or those prostrated by fever or exhaustion, preparations of the pancreas of the pig (an omnivorous animal) may be employed, by means of which food may be partially or wholly digested previous to administration; their nutrition is thus maintained, and the stomach has time to regain its wonted powers of digestion.

Extractum Pancreatis (Fairchild).

An American preparation, is sold in three forms:—(1) The powder put up in ¼-ounce and 1-ounce bottles; requires the addition of bicarbonate of sodium; is used for peptonising beef-tea, milk, and gruels. (2) Tablets of Extractum Pancreatis weighing 3 grains. *Dose.*—One or two, an hour or so after meals. (3) Peptonising powders in glass tubes, each containing 5 grains of Extractum Pancreatis and 15 grains of bicarbonate of sodium; are used for peptonising milk, gruel, &c.

Pancreatine.

Dose.—2 to 4 grains. Sold in bottles with a dose measure.

A desiccated preparation of the Pancreas, mixed with powdered malt. It is very hygroscopic, and if carefully prepared contains the active principles of the Pancreas.—Proc. Roy. Soc. xvi.209; B.M.J. ii./80,841.

Liquor Pancreaticus (Benger's).

Is made by treating 1 part of the pancreatic tissue of the pig with a mixture of 1 part of rectified spirit and 3 parts of water, and filtering the liquor.—Proc. Roy. Soc. xxxii.145.

This solution possesses the amylolytic or diastasic properties of converting starch into dextrin and sugar (maltose and dextrose), and the proteolytic or tryptic action of converting albumen and fibrin into peptones, and of first curdling and then peptonising milk.

Dose.—1 to 2 drachms in a little water with meals; or mixed with food, such as farinaceous gruels, bread-and-milk, or arrowroot, when cool enough to sip; or, when given to aid intestinal digestion, 1 or 2 drachms in water with a pinch of bicarbonate of sodium 2 or 3 hours after a meal. As an addition to nutritive enemata, a dessertspoonful should be added to beef tea or milk gruel just before its administration. Liquor Pancreaticus will not keep diluted, and a temperature much over 140° F. destroys the ferment, which does not act in an acid medium.—B.M.J. ii./79,683,724; B.M.J. i./80,539,575, 614,647,683; L. i./80,513,549,589,629,705,753,827.

Peptonised Milk.

Dilute a pint of milk with a quarter of a pint of water, and heat to a lukewarm temperature, about 140° F. (or the diluted milk may be divided into two equal portions, one of which may be heated to the boiling point and then added to the cold portion, the mixture will then be of the required temperature). Add two teaspoonfuls of Liquor Pancreaticus, with a pinch of bicarbonate of sodium. Pour the mixture into a covered jug and place in a warm situation. At the end of an hour or an hour and a half, or when not more than slightly bitter, boil the product. It can then be used like ordinary milk.

Peptonised Beef Jelly. Sold in tins.

An extract of beef containing much of the fibrin converted into peptone or partially digested by pancreatic trypsin. May be taken by teaspoonfuls as a restorative, or added to soups, &c.—Trans. Med. Congress, 1881, i. 517.

A Saline and a **Neutral Essence of Pancreatine** are prepared by Savory & Moore. *Dose* of each, 1 to 2 drachms diluted. The Neutral Essence has properties like Liquor Pancreaticus, and the Saline Essence is prepared with common salt.—B.M.J. i./80,438,473,512.

Pancreatic Emulsion.

Prepared by mixing and pounding the pancreas of the pig with lard and water, straining, and exhausting the strained substance with ether. The ether forms a solution of pancreatised fat. From this the ether is distilled, and the fat mixed with a mixture of rectified spirit and water (1 to 3) and emulsified by agitation. Oil of cloves is added to flavour and preserve it.—Proc. Roy. Soc. xvi.209; L. ii./64,288; L. i./65,620; L. ii./65,534,562; L. ii./66,542.

Dose.—1 to 3 drachms, in a little milk or water, with a little spirit added, if liked, once or twice a day 1 or 2 hours after a meal. Given in consumption and other wasting diseases attended with loss of power to digest and assimilate food, especially where fats and cod-liver oil do not agree with the stomach.

Although the fat is first pancreatised and *then* emulsified, much of the value of the above preparation is due to its containing an animal fat, rich in stearine, in a suitable condition to be readily assimilated. The writer has succeeded in preparing an emulsion of lard, for hospital purposes, by the following formula:—

Emulsio Adipis, Fat Emulsion.

Prepared Lard	... ...	15 ounces.
Boiling Distilled Water	...	30 ounces.
Tragacanth, in powder	...	300 grains.
Essential Oil of Almonds	...	15 minims.

Melt the lard, add the tragacanth, and mix. Then pour in the boiling water, and stir with a whisk till nearly cold, add the oil of almonds, mix well, and put into well-corked wide-mouth bottles.

Dose.—1 to 3 drachms, mixed with milk and a little rum added, if liked, once or twice a day after a meal, or early in the morning before breakfast.

Pancreatised Farinaceous Food (Benger's).—Wheat flour, partially dextrinised by dry cooking, is impregnated with an extract of pancreas; is suitable for infants and invalids; when mixed with milk or milk and water, artificial digestion of the food and milk takes place, which can be checked at any point by boiling.—Trans. Med. Congress, 1881, i.517; L. i./82,489.

Pulvis Pancreaticus Alkalinus (Benger).

Twenty grains in each. Consists of pancreatic enzymes mixed with bicarbonate of sodium, one being sufficient to peptonise a pint of milk in from 10 to 30 minutes, according to the amount of predigestion required.—B.M.J. ii./85,191.

Milk, Artificial Human (Frankland). Add to $\frac{2}{3}$ pint new milk, the cream removed from another $\frac{1}{3}$ pint after standing 12 hours. Curdle this $\frac{1}{3}$ pint of skimmed milk with a square inch of rennet by contact for five to fifteen minutes. Break up the curd frequently, and separate the whey, which heat to boiling point, removing the casein which is thus separated. Dissolve 110 grains Sugar of Milk in the hot whey, and mix it with the $\frac{2}{3}$ pint milk containing the cream of the other $\frac{1}{3}$ pint.

The artificial milk should be used within 12 hours of its preparation, and the same piece of rennet will serve for weeks.

Preparation of milk for infant feeding, by the addition of oatmeal, butter, and milk sugar to diluted cow's milk.—P.J. 1889,3.

PAPAIN.

Syn.—PAPAYOTIN. (But this term is sometimes applied to the crude powder produced by drying the juice, otherwise known in commerce as dried Papaw Milk. Dose of this, 3 to 10 grains.)

Dose of Papain.—1 to 8 grains suspended in water.

A white or whitish, amorphous, slightly granular powder, prepared from the juice of the papaw, *Carica papaya.* It has the property of digesting fibrin like pepsin, and its action is not checked by carbolic acid.—Trans. Med. Congress 1881, i.513. P.J. 1880,250,350. Is a vermifuge; report on its digestive power.—P.J. 1885,45.

Elixir Papain.—*Dose.*—1 drachm with meals.

Glycerinum Papain.—*Dose.*—1 drachm with meals.

Glycerine slightly acidulated with hydrochloric acid, is a solvent for papain, and forms a useful mode of administration.

Trochisci Papain ($\frac{1}{2}$ gr.)—With meals for dyspepsia.

Trochisci Papain ($\frac{1}{5}$ gr.) **et Cocainæ** ($\frac{1}{10}$ gr.) These, if slowly sucked, are useful for patches on tongue, &c.

To remove warts, in chronic eczema and hypertrophied condition of the skin of the palms of the hands, a **Pigment of Papain** 12 grains, Borax 5 grains, water 2 drachms, applied twice a day, was found curative. Recommended also as a solvent of the false membrane in diphtheria.—B.M.J. i./82, 738,845.

Will peptonise 200 times its own weight of pressed fresh blood fibrine.—M.R. 1882,454.

Comparison between papain and pepsin as digestive ferments; acts best in alkaline solutions.—L. ii./87,164.

Ulcers and fissures of tongue painted with a solution of Papain 1 to 2 in 10 each of glycerine and water recommended.—Monatsh. für prakt Derm. Vol.vi.No.7; L. ii./87,604; Th. Gaz. Oct. 1887, 717; Pr. xliv,55.

Method of papainizing milk, 7 grains digest a pint in an hour and a half.—B.M.J. ii./85,125.

Useful in chronic cases of indigestion and dyspepsia, with acid eructations and painful gastric fermentation. —Pr. xli./201.

PAPAVERINA.

Papaverine.

Dose.—$\frac{1}{12}$ to $\frac{1}{3}$ of a grain.

An alkaloid from opium, does not readily form salts with acids, is in colourless acicular crystals, insoluble in water, sparingly soluble in spirit, soluble in ether.

Said to be a strong narcotic, without producing previous excitement or being followed by headache or giddiness. It contracts the pupil, when it causes sleep and reduces the frequency of the pulse from 20 to 30 beats.—R.

PARAFFINUM DURUM.

Hard Paraffin (*Off.*). *Syn.*— PARAFFIN; PARAFFIN WAX; SOLID PARAFFIN.

A mixture of several of the harder members of the paraffin series of hydrocarbons; usually obtained by distillation from shale, separation of the liquid oils by refrigeration, and purification of the solid product. Is colourless, semi-transparent, crystalline, inodorous, and tasteless, slightly greasy to the touch. Sp. Gr. 0·82 to 0·94. Insoluble in water, slightly soluble in absolute alcohol, freely soluble in ether. It melts at 110° to 145° and burns, but not without a wick, with a bright flame, leaving no residue. The range of melting point of this and the soft paraffin is too wide; melted together, they do not produce a uniform basis for ointments.

Ceresin. A hard white paraffin prepared from ozokerit, or earth wax; has melting point about 155° F. When artificially coloured to resemble yellow wax it is sold as **Yellow Ceresin.**

PARAFFINUM MOLLE.

Soft Paraffin (*Off.*). *Syn.*—PETROLATUM; UNGUENTUM PARAFFINUM.

A semi-solid mixture containing some of the softer or more fluid members of the paraffin series of hydrocarbons. Melts at 95° to 105° F.; is usually obtained by purifying the less volatile portions of petroleum. It is known in commerce by various fanciful names, of which

Vaseline, Vaselinum, or (as termed in earlier editions of this work) **Gelatum Petroleum,** Petroleum Jelly, is most in demand.

This Petroleum product, of semi-solid, unctuous consistence, translucent, and pale opal yellow in colour, is the oleaginous residue obtained by distilling off the lighter burning oils from certain varieties of crude petroleum; it is purified from volatile products by gently simmering and filtering through animal charcoal; if repeatedly filtered through this, it becomes opal-white in appearance, and is then known as

Vaselinum Album, White Vaseline.

This is most suitable for toilet purposes.

Since first imported, about twelve years ago, there have been several imitations of Vaseline produced; but it is still purer, freer from odour, is less crystalline and granular, and has less tendency to separate than any of its competitors. Among the latter, which the official description includes, are—

Adepsine, Yellow and White; melt completely about 120° F.; White Adepsine is of the consistence of, and resembles, lard in appearance; it is one of the best petroleum substitutes for it.

Chrisma, Cosmoline (Unguentum Petrolei), **Fossiline, Ozokerine, Geoline,** and **Salvo Petrolia** are also in the market as imitations of Vaseline.

Vaseline is bland, inodorous, and tasteless, unirritating to the skin, mucous membrane, and wounds or sores in any condition. It has the advantage over lard and other fats, in that it is unchangeable—cannot oxidise or become rancid, and thus set up irritation. It cannot be saponified; caustic alkalies have no action on it. Yet Vaseline and ointments made of it can easily be washed off with soap and water.

Vaseline is insoluble in water, only slightly and partially soluble in alcohol, freely soluble in ether and chloroform. When melted, it combines with oils, melted fats, and paraffin wax, oleates, and oleic acid. It readily dissolves thymol, menthol, and salicylic acid; less so chrysophanic acid, and carbolic acid about 1 in 20; the alkaloids dissolve in it in about the following proportions:—atropine, 1 in 30; cocaine, 1 in 20; morphine, 1 in 200; quinine, 1 in 80; and veratrine, 1 in 80. The oleic acid solutions of these alkaloids dissolve in it in all proportions.

Lard, plain or benzoated, spermaceti ointment, and simple ointment are the four bases suggested for extemporaneous medication by the Pharmacopœia. Lard, the most used and cheapes, has for some purposes, in the summer, too low a melting point; spermaceti ointment is variable and costly; and simple ointment crumbles in winter. Being from animal and vegetable sources, these are all prone to become rancid.

Since Vaseline was introduced to the medical profession and the public in this country by the writer, this and the other inodorous forms of petroleum containing more or less paraffin wax have, in great measure, replaced the before-mentioned preparations as bases for external medication. Still, both classes of bases have their special uses. Where absorption of the medicament by the skin or tissues is required, lard or some animal fat is best adapted for the purpose, *e.g.*, for mercurial inunction, applying iodine, iodide of potassium, or other iodides, to reduce glandular enlargements, and for using aconitine, veratrine, or morphine in neuralgia, or relieving pain generally. Lard is often a solvent for these medicaments, or by the intervention of oleic acid, chloroform, or spirit, they may be dissolved in lard, and thus be readily absorbed. Vaseline and its allies are often solvents also; but these petroleum bases are not readily, if at all, absorbed by the skin or tissues. After slightly smearing the hands or other parts of the body with Vaseline, they remain moist for eight hours or more. In this way, Vaseline is an excellent lubricant for the skin,—protects it from exposure, and prevents the drying, hardening, scaling, or cracking of parts likely to do so. By thus protecting and keeping the parts moist, it is very useful in many skin diseases, and for applying to the eruption of scarlet fever or measles, burns, scalds, and chapped and sunburnt skin; it prevents the formation of hard crusts, and is a good basis for many medicaments of which it is a solvent. As it melts about 95° F., it readily liquefies on whatever part of the body it is applied, and brings the affected part directly and completely in contact with the medicament held in solution; also, as it can be painted on in a thin streak, it is admirably adapted as a basis for applying medicaments, either in solution or suspension, to the eyelids, as well as to the conjunctiva and nasal passages. It is likewise well adapted for drugs which turn lard and other fats quickly rancid, such as preparations of lead, mercury, zinc, and iodide of sulphur. Still, where Vaseline, either by itself or as the basis of a medicament which does not dissolve in it, is required to be applied as an ointment spread on lint or rag, it melts so readily that it becomes absorbed by the dressing, spreads to the surrounding parts, and leaves the medicament dry on the sore. To obviate this, a firmer basis, and one requiring a higher temperature for complete liquefaction is necessary.

In the case of lard, which melts at 110° to 115° F., we have a mixture of the proximate principles stearine and oleine; stearine when pure is solid and brittle, and oleine when pure is liquid; in lard the stearine has crystallized out of solution in the oleine, and the two mix to form a plastic, solid fat, which does not completely liquefy when applied to the surface of the body.

Similarly we require a basis of mixed inodorous solid and liquid paraffins blended by the former having crystallized out of the latter and formed a similar compound to lard. In Vaseline this blending is done by nature, the crystallization is invisible to the naked eye, it is translucent and apparently homogeneous, but its melting point is too low. The writer finds the solid paraffins with higher melting points crystallize in more minute crystals and blend better with Vaseline than those which melt at a lower temperature. He finds the following makes useful hard bases for ointments:—

Ceratum Petrolei.

Vaseline	2 parts.
Paraffin (135° to 140°) ...	1 part.

Melt and stir till cold. It should be stirred with a palette knife in a large enamelled evaporating dish, and be frequently stirred from the sides. Its tendency to form lumps is thus avoided. For complete liquefaction, this requires a temperature of about 125° F. It does not, therefore, completely liquefy on the surface of the body, and is suitable as a basis for ointments to be applied spread on lint or rag, to which it adheres more firmly than to the skin, so that on removal the wound or sore is left clean and free from any adhering ointment, &c. The British Pharmacopœia has adopted this basis, but, as the paraffins ordered are very indefinite, the product varies. It orders

Soft Paraffin	2 parts.
Hard Paraffin	1 part.

Or in some the proportions of hard to soft paraffin is 1 to 3; in Unguentum Eucalypti equal parts are used.

The authorities have also adopted the formulæ of the writer, with slight modifications in some cases, by employing it to make the following official ointments:—Unguentum Acidi Borici (p. 4), Unguentum Acidi Carbolici (p. 11), Unguentum Acidi Salicylici (p. 28), Unguentum Eucalypti (p. 174), and Unguentum Glycerini Plumbi Subacetatis (p. 195); it forms a new basis likewise for the following official ointments:—Unguentum Hydrargyri Oxidi Rubri, Unguentum Potassæ Sulphuratæ, Unguentum Sulphuris Iodidi, and Unguentum Veratrinæ. As this basis is scarcely at all absorbed by the skin, its use in the last ointment, the writer thinks, is a mistake; to derive benefit from this ointment it should be readily absorbed. Impregnated with any solid medicament, and placed into a wound or on a sore, Ceratum Petrolei slowly allows the former to come constantly in contact with the serous or other discharge, and thus checks any putrefaction. A little rubbed on the skin of the face or hands protects the parts more effectually than simple vaseline.

One-eighth part of castor oil added to vaseline enables aqueous solutions of salts, such as iodide of potassium, to be perfectly mixed with it.

Oil Vaseline. *Syn.*—LIQUID VASELINE.

Under this name a semi-liquid mixture of paraffins of low melting-point is used as a vehicle for **Hypodermic Injections**; the medicaments may be either dissolved or suspended in it. Thus it, or Oleum Declinæ (see below), which is more limpid, is recommended as a solvent for **Cocaine** (2 per cent.), **Helenin** (1 per cent.), **Iodine** (2 per cent.), **Iodoform** (1 per cent.), **Thymol** (10 per cent.), **Phenol** (1 per cent.), and **Phosphorus** (1 per cent.): also for Agaricin, Hyoscyamine, Physostigmine, Quinine, and Salol, with the intervention of Chloroform as a first solvent, but these latter do not prove satisfactory.

It is also used in syphilis for the suspension of insoluble mercurial salts for hypodermic injection, such as calomel, salicylate, succinimide, thymol-acetate, and yellow oxide of mercury, 10 per cent. mixtures being employed.

Oleum Declinæ.

Is a purified petroleum oil, free from odour and taste. Its uses in forty cases of skin diseases.—Pr. xxxiv. 401.

In chronic eczema.—L. ii./89, 1113.

Petrolatum, Petroleum Ointment, U.S.

One having a melting point of 104° F. and another 125° F., are official.

Unguentum Petrolei, Petroleum Ointment, L.H.

Yellow Wax	30 grains.
Vaseline	1 ounce.

Melt and stir until cold.

Cremor Zinci.

Oxide of Zinc	80 grains.
Vaseline	1 ounce.
Perfume	*q.s.*

Mix. Is much superior to violet powder for nursery use.

Paraldehyde.—See Aldehyde, p. 47.

PELLETIERINA.

Pelletierine.

Dose.—3 to 6 grains.

An alkaloid obtained from Pomegranate Root Bark, *Punica Granatum*, in minute shining white crystals.

Pelletierinæ Sulphas. *Dose.*—5 to 8 grains.

A brown viscid, syrupy liquid, freely soluble in water. 5 grains subcutaneously injected is recommended for paralysis, vertigo, Menière's disease, tetanus, and hydrophobia, but mostly used as a remedy for tapeworm; 5 to 8 grains taken fasting, followed by a full dose of compound tincture of jalap; in nine cases out of ten the head is passed; for 13 years, half the above dose, and for infants one-tenth.—L. i./86,127.

The **Sulphate of Pseudo-Pelletierine,** in small white acicular crystals, is not used medicinally.

Pelletierinæ Hydrobromas.

Dose.—5 to 8 grains. A brownish viscid liquid. Used in case of paralysis of muscles of the eye with good results.—P.J. 1886,1006.

Pelletierinæ Tannas, Pelletierine Tannate.

Dose.—8 grains.

A greyish white amorphous powder insoluble in water. In tapeworm is an efficient remedy. As a tæniafuge, 8 grains followed in 2 hours by an ounce of castor oil proved an effectual dose, causing neither colic nor headache.—Pr. xxiv.134; Pr. xxxiii.368.

Galeozowski reports that the internal use is apt to cause diplopia.—B.M.J. ii./85,1037.

PEPSIN.

Pepsin (*Off.*).

The gastric juice of man is believed to contain two distinct digestive ferments:—

a. Pepsin. This changes proteids (fibrin, albumen, &c.) into peptones in an acid medium. To this the medicinal pepsins principally owe their activity.

b. Curdling ferment, which curdles the casein of milk; this is very active in the stomach of the calf, even when dried: it is contained in the preparations of rennet preserved with common salt, known as essence of rennet.—B.M.J. ii./79,683; B.M.J. i./80,540.

The medicinal preparations of pepsin rarely possess the latter property in an active condition, and their proteolytic or peptonising power is only exerted in an acid mixture.

Pepsin of the pharmacopœia is a light brown yellowish digestive powder, prepared by drying under 100° F. the fresh mucous lining of the stomach of the pig, sheep, or calf. It has a faint, not disagreeable, odour, is little soluble in water or spirit; rubbed with water, it makes a glairy mixture.

Test.—2 grains, with an ounce of distilled water to which 5 minims of hydrochloric acid have been added, form a mixture in which 100 grains of hard-boiled white of egg, passed through a 36 brass sieve, will dissolve on their being mixed, digested, and well stirred together for about 30 minutes at a temperature of 130° F. That prepared from the stomach of the pig is preferred, and known as Pepsina Porci (Beale's).

Dose.—2 to 5 grains, either with or immediately before or after meals, in a pill with glycerine, or wrapped in wet wafer paper, or sprinked between slices of bread and butter. It is not unpalatable sprinkled on meat like pepper.

Pepsina Amylacea, Pepsine Acide Amylacée ou Poudre nutritive of the French.

Dose.—5 to 15 grains. Is prepared with the addition of starch and slightly acidulated with hydrochloric acid.

Pepsina Saccharata.

Dose.—5 to 15 grains. Has sugar of milk added to the mucous substance to assist in its desiccation; it is preferred in the United States.

Glycerinum Pepsinæ Acidum (Bullock's).

Dose.—1 to 2 drachms in water.

Glycerine is a powerful solvent and preservative of the active principles of the gastric juice. The above preparation is a very active solution slightly acidulated with hydrochloric acid.—Pr. xxiv.192.

In diphtheria, used as a solvent for membrane.—L. ii./81,700.

Lactopeptine.

Dose.—10 to 15 grains, after meals.

A special American preparation, recommended for indigestion, said to be composed of Sugar of Milk 320 parts, Pepsin 64, Pancreatine 48, Diastase 4, and Lactic and Hydrochloric Acids, of each 5 fluid parts.

Experiments, showing its power of digesting coagulated egg-albumen was very weak.—Pr. xxiv.192.

Liquor Pepticus (Benger's).

Dose.—1 to 2 drachms in a wineglassful of water with meals.—B.M.J. ii./80,683.

An active solution of the gastric ferments in weak alcohol.

Pepsin-Essenz (Liebreich's).

Dose.—1 to 2 drachms in water after meals.

This preparation contains principally the curdling ferment in diluted glycerine solution; it is weak in proteolytic power. —Pr. xxiv.192.

Peptone.

A whitish or pale-brown powder, prepared from meat (the proteids and albuminoids), peptonised either by acidulation and heat under pressure, or by artificial digestion with pepsin or trypsin, and freed from saline matter. It is soluble in water, and is used to add to jelly for germ-cultivation, and as a test for bile products in urine.

Resumé of experiments on peptones. Evidence in favour of their use as food. — B.M.J. ii./89,136; P.J. 1889,63.

Peptonised Beef.

A chocolate-coloured paste, having a bitter taste and the odour of extract of beef; prepared by artificially digesting beef by means of acidified fresh gastric juice and concentrating the solution. It is sometimes added to beef tea, but is too unpleasantly bitter to be readily taken by patients. It forms a useful nutritive enema.

Peptonised Beef Suppositories.

Contain about 50 grains of the last preparation in each, with the addition of isinglass. As much as 2 ounces of proteids can be administered daily by this means.—B.M.J. i./81,271; B.M.J. i./82,421,459.

Peptonised Bismuth.—See p. 78.

Peptonised Iron, Solution of.—See p. 185.

Peptonoids of Beef (Gerrard).

Lean Beef, finely minced, 8 ounces, Pepsin 60 grains. Mix and add Diluted Hydrochloric Acid 2 drachms, Water 1 pint. Digest for 3 hours at 130°F.; neutralize with Bicarbonate of Sodium, and strain.

Pepsin Tablets. *Dose.*—1 or 2 with meals.

These have 3 grains of pepsin in each in combination with chocolate, they are portable and palatable. Also

Pepsin and Bismuth Tablets. *Dose* 1 or 2.

Have 3 grs. subnitrate of bismuth added to the above.

Vinum Pepsinæ (Morson's).

Dose.—1 to 2 drachms, with meals.

A solution of the gastric ferments in light Spanish wine.

Phenacetin. See p. 126.

Phenol.—See Acidum Carbolicum, p. 7.

PHOSPHORUS.

Phosphorus (*Off.*).

Dose.—$\frac{1}{200}$ to $\frac{1}{30}$ grain, carefully increased.

This transparent, colourless metalloid, brittle at low, soft and flexible at common, temperatures, melts at 110°, ignites in the air at a slightly greater heat, and forms dense white fumes of phosphoric anhydride. At low temperatures it emits white vapours of phosphorous anhydride. It is insoluble in water, soluble 1 in 320 of absolute alcohol, about 1 in 150 (=1 in 205 by measure) of absolute ether, 1 in 100 of chloroform, 1 in 100 of Dutch liquid (this takes up much more if warmed), about 1 in 100 respectively of almond, olive, castor, and theobroma oils, suet, and most fixed oils and fats; soluble in melted resins (? not unchanged in some); freely soluble in bisulphide of carbon; soluble also in, or rather combines chemically with, oils of turpentine and peppermint, forming non-luminous and comparatively non-poisonous liquids. These, as well as other essential oils, are incompatible with Phosphorus. French Oil of Turpentine is considered its best antidote—30 minims every half-hour.—B.M.J. ii./86,474.

Uncombined Phosphorus is a violent poison, and is a much more energetic medicine than an equivalent quantity of any of its chemical compounds. To obtain its full medicinal and certain action, and ensure its complete absorption, it should be administered in solution—either in oil or fat is most reliable. But its solutions, if liquid, are unpleasant to take and cause disagreeable eructations. Many are unstable, as on exposure to the air they rapidly oxidise and form almost inert compounds. It is a difficult pharmaceutical problem to present it in an active and palatable condition. The French perles or globules of phosphorated oil are stable and active, only the dose contained in them is overstated. Solutions of Phosphorus in oil of theobroma or suet make active pills, if these are coated with sandarach solution, and not kept too long. But the tendency now is to prescribe all the tonics of the pharmacopœia in conjunction with it and expect them to combine and form one small stable and active pill. All the preparations of Phosphorus require skill and care, else much of the Phosphorus is spent or oxidised during manipulation. In making it into pills, this may be partially checked by dropping a minim or two of chloroform into the mortar, the vapour of which checks the luminosity of Phosphorus.

Phosphorus is a nervine tonic and stimulant—given for nervous prostration, paralysis agitans, locomotor ataxy and impotence. It is most useful in neuralgia—especially in aged persons, in leucocythæmia, and in some skin diseases. In psoriasis, chronic eczema, and lichen, it acts somewhat like its chemical ally, arsenic.

Amorphous or **Red Phosphorus.**

Dose.—(?) 1 grain.

An allotropic variety of Phosphorus, obtained by prolonged heating at a temperature of 464° F. without access of air. It is a red powder, insoluble in the simple solvents that dissolve ordinary Phosphorus. It might be administered in a pill, first triturated with sugar of milk and massed with glycerine of tragacanth, but it is unsafe, and not used medicinally. If perfectly free from white Phosphorus, which constitutes its danger, it appears to be physiologically and therapeutically inert. Half-drachm doses were taken 3 times a day for 40 days without apparent effect.—P.J. 1875,41.

Preparations.

N.B.—All preparations of Phosphorus require to be kept from the light and in a cool place.

Alcoholic Solutions of **Phosphorus** have been employed medicinally; but, as it requires 320 parts of cold and 180 of boiling absolute alcohol to dissolve it, and even in this quantity solution is difficult, and as on addition to water the Phosphorus is all precipitated, such solutions are unsatisfactory, uncertain, and give deceptive results.—Pr. xi.19; P.J. 1873,452.

Æther Phosphoratus, Teinture Ethérée de Phosphore (Codex, 1839).

Phosphorus, in small pieces	4 parts.
Pure Ether, Sp. Gr. 720 (by weight)	200 parts.

Macerate with frequent shaking in a dark place for a month and decant. About one-third of the phosphorus only is dissolved, it contains 1 in 150 (or 205 by measure). *Dose.*—1 to 10 minims.

In neuralgia, 5-minim doses effected a cure, taken on the advent of an attack and repeated as required.—L. ii./72,690.

In neuralgia, 1 minim doses useful.—B.M.J. ii./78,975; B.M.J. i./79,176.

Elixir Phosphori. *Adopted by B.P.C.*

Compound Tincture of Phosphorus (see p. 297) ...	1 drachm.
Add to	
Glycerine	4 drachms.

And shake well.

Dose.—15 minims to 1 drachm in water. Contains $\frac{1}{50}$ grain in one drachm. As a fluid form of Phosphorus this is stable, palatable, and is well borne by the stomach.

Oleum Phosphoratum (*Off.*).

Dose.—1 to 10 (!) minims, on sugar or in perles.

Contains about 1 per cent. of Phosphorus in prepared almond oil; it is about as saturated as the corresponding preparation in the Paris Codex is, in which 1 in 50 is ordered, but only 1 per cent. is dissolved. It is phosphorescent in the dark. Diluted with twice its bulk of almond oil, so as to make it 1 in 300, it forms a liniment or eye-drops, which has been used in Paris for the cure of cataract without operation. 3 to 5 instillations are used per diem.

Perles of Phosphorated Oil.

Dose.—One after meals.

These are imported from France, containing $\frac{1}{100}$ grain, $\frac{1}{35}$ grain, and $\frac{1}{32}$ grain of Phosphorus respectively.

Phosphorated Cod Liver Oil.

Dose.—1 to 4 drachms.

Is prepared by adding 160 minims of Phosphorated Oil, B.P. to a pint of cod liver oil. It contains $\frac{1}{100}$ grain in one drachm. It is a very unstable and unpalatable preparation.—P.J. 1877,694,712,748.

Pilula Phosphori (*Off.*).

Dose.—2 to 4 grains.

This is a mixture of phosphorus 3, balsam of tolu 120, yellow wax 57, and curd soap 90, and contains phosphorus 1 in 90 of the mass.—P.J. 1874,902. The soap is added when dispensed; the other mixed ingredients are to be kept under water in a bottle. The writer has been in the habit of preparing phosphorus pills with the oil of theobroma solution of phosphorus devised by him, as follows:—P.J. 1870,414; L. ii./76,705; B.M.J. ii./76,641.

Pilula Phosphori (Martindale).

Dose.—1 to 3 grains.

Phosphorus	12 grains.
Oil of Theobroma ...	*q.s.*

Heat the oil to 300° F. and sustain the heat for 5 minutes. Strain and weigh 1188 grains into a wide-necked bottle with an indiarubber cork, and when cooled to 130° F. add the Phosphorus, cork and shake well till the fat begins to solidify. In rolling it into pills, divide into suitable lots, and beat each in a mortar to render it plastic before applying it to the machine, then work off quickly and cover with sandarach solution. The mass contains 1 per cent. of Phosphorus in perfect solution. It should be kept from the light.

When Phosphorus is to be combined with other ingredients in a pill, a more concentrated fatty basis is to be preferred. The following will contain about 10 per cent. of Phosphorus:—

Phosphorated Suet, 10 per cent.

Phosphorus	10 grains.
Bisulphide of Carbon ...	50 minims.

Dissolve and add

Prepared Suet	90 grains.

Add a little of the suet at first, mix quickly, add the remainder, mix thoroughly and allow the bisulphide to evaporate. This basis may be used to make the following pills, the formulæ of which are much advertised.

Dose of each, one directly after meals.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.).

Phosphorated Suet... ...	10 grains.
Reduced Iron	150 grains.
Compound Tragacanth Powder	10 grains.
Chloroform...	15 minims.

Mix, and add quickly

Mucilage of Acacia *q.s.*

Mix, and divide into 50 pills. Cover with sandarach solution. The chloroform prevents phosphorescence and oxidation.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.) **et Nuce Vomica** ($\frac{1}{3}$ gr.).

Make as last, adding $\frac{1}{3}$ grain Extract of Nux Vomica to each.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Nuce Vomica** ($\frac{1}{3}$ gr.).

Prepare as the last pills, replacing the reduced iron by one grain of sugar of milk in each.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** (1 gr.).

Phosphorated Suet... ...	10 grains.
Quinine, pure (= 50 grs. Sulphate)	38 grains.
Chloroform...	20 minims.
Mix quickly, and add	
Compound Tragacanth Powder	10 grains.
Mucilage of Acacia... ...	*q.s.*

Mix, and divide into 50 pills. Cover with sandarach solution.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** ($\frac{1}{2}$ gr.) **et Ferro** (3 gr.).

Make as last, using half the quantity of quinine there ordered, and adding 3 grains Reduced Iron to each pill.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** ($\frac{1}{2}$ gr.), **Ferro** (3 grs.), **et Strychnina** ($\frac{1}{40}$ gr.).

Prepare as the former pills, adding the proportionate quantity of strychnine.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Strychnina** ($\frac{1}{40}$ gr.).

Prepare as Pilula Phosphori cum Quinina, with Strychnine 1$\frac{1}{4}$ grains *vice* Quinine 38 grains.

Tinctura Phosphori Composita. *Adopted by B.P.C.*

Dose.—3 to 12 drops on sugar.

Phosphorus...	3 grains.
Chloroform...	5 drachms.

Warm gently in a stoppered bottle till dissolved, and add the solution to

Ethylic Alcohol	25 drachms.

Shake well and keep in the dark. Contains 1 in 600.

Zinci Phosphidum, Phosphide of Zinc, U.S.

Dose.—$\frac{1}{20}$ to $\frac{1}{3}$ grain.

A steel grey crystalline powder, of which about one-fourth of its weight is Phosphorus, but it has only about one-eighth the medicinal activity of the latter. It has been used in medicine as a form of administering Phosphorus. It is stable, not oxidised by trituration, and can readily be formed into pills by levigation with sugar of milk and glycerine of tragacanth.

Pilula Zinci Phosphidi.

One-sixth of a grain in each, prepared as above.

References to Phosphorus.

Relieves epileptiform vertigo, nervous break-down, anæmia, and neuralgia.—Pr. x.230.

For neuralgia, tic douloureux and hemicrania, frequent doses of $\frac{1}{20}$ to $\frac{1}{30}$ grain useful.—M.T.G. i./73,412.

Use in angina, essential or pernicious anæmia, and leucocythæmia.—Pr. xix.16.

Psoriasis, rapid cure by.—L. ii./76,877.

Use in leucocythæmia, debates and notes on.—L. ii./76,786,799,858,868.

Letters on pharmaceutical preparations of, recommending pills with oil of theobroma.—L. ii./76,705; B.M.J. ii./76,641; B.M.J. i./79,103,257,378,614.

Poisoning by phosphorus rat poison with recovery, treated with milk, solution of morphine and opium, and an enema of castor oil and opium.—L. i./80,644.

Phosphorus useful as a preventive of congenital malformation.—B.M.J. ii./80,802.

Two cases of lymphadenoma, showing the hæmatinic influence of Phosphorus. In one, during 5 months' treatment, the red blood corpuscles increased from 52 to 76 per cent.; in the other, from 62 to 80 per cent. in 31 days.—Pr. xxi.1.

In toxic doses given to fowls, Phosphorus causes an extreme diminution of the red blood corpuscles, which in one case fell to one-sixth of the original number, with a great decrease of metabolism.—L. i./81,887.

Tubercular meningitis, valuable in the treatment of. —Pr. xxxiii.438.

Case of diabetes improved under Phosphorus.—B.M.J. ii./89,1216.

The **Hypophosphites** of **Ammonium, Calcium, Iron, Potassium,** and **Sodium,** being salts which have their Phosphorus in weak chemical combination, are considered as possessing somewhat similar therapeutic properties to Phosphorus. They, like Phosphorus itself, can all be readily ignited when brought in contact with a naked flame. These salts have been much used as nervine tonics, and are specially serviceable in the incipient stages of phthisis, where there is little tendency to hæmorrhage —the lime-salt is particularly useful in checking night-sweats. They are also valuable in the treatment of acne.

Acidum Hypophosphorosum, B.P.C.

Dose.—2 to 5 minims.

A colourless liquid, containing 30 per cent. of hypophosphorous acid.

Hypophosphite of Barium ...	... 8 ounces.
(Containing not less than 95 per cent. of Ba. 2 $(PH_2O_2)H_2O$.)	
Diluted Sulphuric Acid	
Distilled Water	... of each *q.s.*

Dissolve the hypophosphite in 36 ounces of hot water, and add slowly 17 ounces of diluted sulphuric acid, continuing the addition drop by drop until no further turbidity is produced. Set aside for 1 hour in a warm place, and filter, washing the precipitate with hot water until the washings have no longer an acid reaction. Evaporate the filtrate on a water bath to about 11½ ounces, or until of sp. gr. 1·1367.

Ammonii Hypophosphis.

Dose.—1 to 6 grains.

In white deliquescent tabular crystals, soluble 1 in 2 of water. It has a nauseous saline taste.

Calcii Hypophosphis (*Off.*).

Dose.—1 to 6 (or 10, B.P.) grains.

A white crystalline salt, with a pearly lustre and a bitter, nauseous taste, soluble 1 in 7 of water. It is prepared by heating phosphorus with milk of lime until phosphoretted hydrogen ceases to be given off, then filtering and evaporating to crystallize. The other salts are generally prepared from this by the double decomposition of the carbonates or sulphates of their bases.

Syrupus Calcii Hypophosphitis.

Dose.—1 to 4 drachms. Each drachm contains 1 grain of the hypophosphite.

Hypophosphite of Calcium ...	... 160 grains.
Distilled Water	... 9 ounces.
Dissolve, filter, and add Sugar	... 1 pound.
Dissolve with a little heat, and add	
Hypophosphorous acid ...	... 20 minims.
Distilled Water	*q.s.* to 1 pint.

Syrupus Calcii, Manganesii et Potassii Hypophosphitum, B.P.C.

Hypophosphite of Calcium, 2 grains; Hypophosphites of Manganese and Potassium, of each 1 grain;

Boiling Distilled Water, 12 minims, dissolve, and add Syrup, to 1 drachm. Filter or decant.

Dose.—½ to 1 drachm.

Ferri Hypophosphis.

Syn.—FERROUS HYPOPHOSPHITE.

Dose.—1 to 5 grains in a pill with syrup.

In commerce is a whitish amorphous powder with a chalybeate taste, soluble almost entirely 1 in 8 of water.

Liquor Ferri Hypophosphitis Fortis, B.P.C.

Dose.—10 to 30 minims.

Sulphate of Iron	760 grains.
Hypophosphite of Barium ...	830 grains.
(Containing not less than 95 per cent. of Ba. 2 $(PH_2O_2)H_2O$.)	
Diluted Sulphuric Acid	100 minims.
Distilled Water	1 pint.

Put the sulphate of iron with 5 ounces of water in a tall 24-ounce bottle, and shake till dissolved. Dissolve the hypophosphite of barium in the remaining 15 ounces of water, and add slowly to the former solution. Shake and add the diluted sulphuric acid; again shake and set aside for 2 days, then syphon off the clear liquid. Keep it in bottles quite full.

Each drachm contains about 5 grains of hypophosphite of iron. The solution has an acid reaction. and should not give more than a faint precipitate, if any, with diluted sulphuric acid, or solution of chloride of barium.

Liquor Hypophosphitum Compositus, B.P.C.

Syn.—LIQUOR FERRI HYPOPHOSPHITIS COMPOSITUS.

Hypophosphite of Calcium ...	320 grains.
Hypophosphite of Sodium ...	320 grains.
Hypophosphite of Magnesium ...	160 grains.
Strong Solution of Hypophosphite of Iron	6 ounces.
Hypophosphorous Acid, 30 per cent.	½ ounce.
Distilled Water, ...	*q.s.* to 1 pint.

Dissolve separately the sulphate of iron and carbonate of sodium, mix the solutions, wash the precipitate with sweetened water, and transfer it to a solution of the hypophosphites in 8 ounces of water; add the acid, and make up to 1 pint with water.

Each drachm contains about 2 grains each of hypophosphite of sodium and calcium, 1 grain of hypophosphite of magnesium, and 1½ grains of hypophosphite of iron.

Dose.—½ to 2 drachms.

Forms a much more useful "chemical food" for children than Parrish's preparation. Best administered in raisin wine, or for adults in Carlowitz.—B.M.J. i./80,472.

Syrupus Ferri Hypophosphitis, B.P.C.

Strong solution of Hypophosphite of Iron, 4 ounces; Syrup, 16 ounces.
Mix.

Dose.—½ to 2 drachms.

Pilula Ferri Hypophosphitis cum Strychnina.

Strychnine, $\frac{1}{30}$ grain. Hypophosphite of Iron, 2 grains. To make one pill. *Dose.*—1 twice or thrice daily.

Manganesii Hypophosphis.—See p. 247.

Potassii Hypophosphis.

Dose.—1 to 6 grains.

A deliquescent granular white powder, having a nauseous, bitter taste. Soluble 1 in 1 of water.

Sodii Hypophosphis (*Off.*).

Dose.—1 to 10 grains.

A white granular deliquescent salt, with a bitter, nauseous taste. Soluble 1 in less than 2 of water.

Syrupus Sodii Hypophosphitis.

Dose.—1 to 4 drachms. Each drachm contains 1 grain of the Hypophosphite.

Hypophosphite of Sodium ...	160 grains.
Distilled Water	3 drachms.

Dissolve, filter, wash the filter with 1 drachm of distilled water, and add

Syrup, *q.s.* to	1 pint.

Syrupus Hypophosphitum Compositus, B.P.C.*

Dose.—½ to 2 drachms.

***Syr. Hypophos. Comp.** (*American*).

The following formula has been published, based on an analysis; the product much resembles the advertised preparation:—Pyrophosphate of Iron (Sodio-citro-ferric Pyrophosphate), 15 grains; Hypophosphite of Sodium, 45 grains; Strychnine (dissolved with a drop or two of Diluted Sulphuric Acid), ½ grain; Hypophosphite of Manganese, 15 grains; Sulphate of Quinine, 5 grains; Distilled water, 1 ounce. Heat gently to dissolve, without further addition of acid, and add to Syrup *q.s.* to weigh 16 ounces. *Dose.*—One teaspoonful.

Quinine (alkaloid)	20 grains.
Strychnine	1 grain.
Hypophosphorous Acid, 30 per cent.	2 drachms.
Strong Solution of Hypophosphite of Iron	3 ounces.

Dissolve and add

Hypophosphite of Calcium ...	80 grains.
Hypophosphite of Manganese ...	40 grains.
Hypophosphite of Potassium ...	40 grains.

Dissolve, filter, and add

Syrup, *q.s.* to	1 pint.

In phthisis and like cases, hypophosphites raise the nervous power and improve the condition of the secretions.—L. i./61,518; B.M.J. i./80,472; P.J. 1882,603.

Phthisis, 12 cases treated with hypophosphites; result apparently nil.—L. i./63,463.

They act as respiratory excitants, expand the chest, increase animal heat and nervous force, remove erratic pains, increase appetite and check night-sweats.—M.T.G.i./71,162.

Phthisis, 57 out of 100 cases improved under their use. Considered the best general tonics in incipient consumption and in the more advanced stages when the progress of the disease has been arrested.—L. ii./79,311, 344. Further remarks.—B.M.J. ii./82,11.

In infantile diseases the use of the mixed hypophosphite salts is recommended.—B.M.J. i./80,472.

Wheat - Phosphates, Saccharated, the soluble part of bran—the organic phosphates and cerealin (ferment of bran) combined with sugar of milk—are specially useful in weakly and rickety children, and where digestion is impaired seem to aid the assimilation of food and even of such medicines as iron.

Dose.—Half a teaspoonful (increased) 2 or 3 times a day, may be taken as sugar with food.

PHYSOSTIGMA.

Calabar Bean (*Off.*).

Dose, in powder.—1 to 4 grains.

The poisonous properties of this drug, the dried seed of *Physostigma venenosum*, chiefly due to Physostigmine, are said to be contained principally in the integument.

Preparations of Physostigma and its alkaloid Physostigmine, applied topically to the eyes, contract the pupil, and are antagonistic to atropine.

For tetanus the dose of extract given by mouth, rectum, or hypodermically, should be repeated, and increased every hour, so as to produce paralysis little short of arresting the breathing. For chorea also it is given in smaller doses. In paralysis it arrests muscular wasting and improves muscular power. In hemiplegia or paraplegia, give doses of 1/30 to 1/10 grain frequently.—R.

Extractum Physostigmatis (*Off.*).

Dose.—1/16 to 1/4 grain, in a pill with sugar of milk; in cases of tetanus may be given every hour and increased.

This extract, if carefully prepared with alcohol of full strength, is dark brown, soft, and viscid, not miscible with water nor glycerine, but may be emulsified with gum and spirit, as in the following formula.

Injectio Physostigmatis Hypodermica.
Extract of Calabar Bean ... 10 grains.
Rectified Spirit ... ... 10 minims.
Rub together till smooth, and add
Gum Acacia ... ... 10 grains.
Mix, and add gradually
Distilled Water to ... ... 1/2 ounce.
Dose.—3 to 12 minims.

Traumatic tetanus, cases of, treated with Calabar bean. 1/3 grain of the extract every hour, then 1/6 grain every 2 hours, was successful.—L. i./68,434,463.

Antagonistic to strychnine, *not* to be depended on as a remedy for poisoning by.—B.M.J. ii./74,805.

Eseridina. Eseridine.

Dose.—?

An alkaloid contained in calabar bean, and may be obtained as a derivative of physostigmine. It occurs in minute white crystals, only slightly soluble in ether.

Has only one-sixth the toxic action of physostigmine, but exercises a tetanic action on the spinal cord, and produces abundant mucous discharges from the intestines.—L. i./89,396; P.J. 1888,345.

Therapeutically as a laxative.—Th. Gaz. Oct. 1889, 688.

Physostigmina. Physostigmine (*Off.*).

Syn.—ESERINE. *Dose.*—$\frac{1}{100}$ to $\frac{1}{50}$ grain.

The alkaloid is in large colourless rectangular crystals, slightly soluble in water, freely in ether, soluble 1 in 180 of vaseline. Solution in castor oil, $\frac{1}{2}$ to 1 per cent. (by weight) is used.

Lamellæ Physostigminæ, Discs of Physostigmine. (*Off.*).

Each contains $\frac{1}{1000}$ grain of Physostigmine; also prepared containing $\frac{1}{250}$ grain and $\frac{1}{500}$ grain respectively, for ophthalmic use. Also $\frac{1}{1000}$ grain, combined with cocaine $\frac{1}{200}$ grain.

Hypodermic Lamels contain $\frac{1}{100}$ grain.

Physostigminæ Hydrobromas, Physostigmine Hydrobromate.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain.

A whitish amorphous powder, as met with in commerce, slightly hygroscopic, very soluble in water.

Physostigminæ Salicylas, Physostigmine Salicylate, U.S.

Syn.—PHYSOSTIGMINUM SALICYLICUM, P.G.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain.

In colourless, shining, needle-shaped, or short columnar crystals. A stable salt, soluble 1 in 140 of cold water, forming a colourless solution, which becomes red in a few days, but does not lose much in efficacy.

Injectio Physostigminæ Salicylatis Hypodermica.

One grain in distilled water *q.s.* to 160 minims.

Dose.—1 to 6 minims. May also be used as eye-drops in preference to the solution of the sulphate.

Physostigminæ Sulphas, Physostigmine Sulphate.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, increased to $\frac{1}{12}$ grain.

A whitish amorphous powder, very hygroscopic and soluble in water.

Guttæ Physostigminæ, R.O.H.

Sulphate of Physostigmine 2 grains to Distilled Water 1 ounce; also **Guttæ Physostigminæ Fortiores,** 4 grains to 1 ounce; and a combination of Sulphate of Physostigmine 1 grain with Hydrochlorate of Cocaine 5 grains to 1 ounce.

Injectio Physostigminæ Sulphatis Hypodermica, 4 grains to 1 ounce.

Dose.—1 to 4 minims.

References.

For chorea $\frac{1}{32}$ to $\frac{1}{12}$ grain or more of sulphate hypodermically; also in tetanus.—L. ii./75,187; P.J. 1889, 704; Th. Gaz. June,1888,386.

For corneal ulcers in scrofula, solution of 2 grains to an ounce dropped into the eye; also in mydriasis and glaucoma.—Pr. xxi.294.

Presbyopia, useful for, $\frac{1}{500}$ to $\frac{1}{200}$ grain in solution dropped into the eye at a time.—M.T.G. i./76,174.

Use of salts as myotics.—B.M.J. ii./79,363.

Acute glaucoma, cases of, cured by 2 or 3 eserine discs applied daily.—B.M.J. ii./81,921.

Use of in glaucoma and ocular neuralgia.—B.M.J. i./82,811.

Use of as a preliminary to extraction in cases of cataract.—B.M.J. ii./82,1293.

Painful corneal ulcers successfully treated with Eserine drops and warmth.—B.M.J. ii./83,864.

In glaucoma Eserine is indicated, in iritis Atropine.—Pr. xxxi.321.

Eserine may also cause glaucoma.—L. i./84,99.

Traumatic tetanus, a case recovered under doses of $\frac{1}{6}$ grain of sulphate of Physostigmine every two hours.—Pr. xxxiii.255.

Eye diseases; a summary of those in which Physostigmine will do good.—Pr. xxxiv.104.

Ocular pressure increased by its use.—L. ii./86,183.

Effects of eye-drops containing 1 grain in 1 drachm, instead of 1 ounce.—L. i./87,621.

Use of eye-drops caused nausea and vomiting.—B.M.J. ii./87,510.

PHYTOLACCIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive, of a pale brown colour, obtained from poke root, *Phytolacca decandra.* Is nauseant and emetic, cathartic and alterative, used in syphilitic and rheumatic affections.

As a hepatic stimulant on the dog has considerable power; it also slightly stimulates the intestinal glands.—B.M.J. ii./78,912; Pr. xxiii.410.

Tinctura Phytolaccæ.—1 of root in 10 of equal parts Rectified Spirit and Water.

Dose.—3 to 10 minims.

Local application relieves painful mammæ, given internally at same time.—B.M.J. ii./87,844,921.

Orchitis relieved by 4- to 6-minim doses; it has antiscorbutic and antisyphilitic properties.—L. ii./85, 1161.

PICROTOXINUM.

Picrotoxin, U.S.

Dose.—$\frac{1}{120}$ to $\frac{1}{20}$ grain.

A neutral crystalline principle obtained from the seeds of *Anamirta Cocculus*—cocculus indicus, in white needles or in laminæ, does not form salts. Soluble, 1 in 240 of water at 60°, freely soluble in glacial acetic acid, alcohol, and caustic alkaline solutions. It requires about 500 parts of olive oil or lard to dissolve it, and 60 parts of glycerine even if heated to 212° F., most of it also crystallizes out on cooling. Taste bitter. It has been used with good results in checking night-sweats, also employed in epilepsy and chronic alcoholism; overdoses cause stupor, delirium, and convulsions. Other principles, Menispermic Acid, Anamirtin, and Cocculin, are stated to be contained in cocculus indicus, in addition to Picrotoxin, which can be split up into two separate principles, Picrotoxinin and Picrotin.

Liquor Picrotoxini Aceticus.

Picrotoxin	8 grains.
Glacial Acetic Acid ...	4 drachms.

Dissolve and add

Distilled Water to	4 ounces.

Filter.

Dose.—2 to 12 minims in water.

Is palatable and keeps in solution at all temperatures. Pr. xxv.93; B.M.J. i./80,351. For hypodermic injection a simple aqueous solution of Picrotoxin 1 in 240 is best used, but it is difficult to dissolve and apt to crystallize out.

Pigmentum Picrotoxini.

Picrotoxin	8 grains.
Glacial Acetic Acid ...	4 drachms.
Dissolve and add	
Castor Oil	4 drachms.
Oil of Eucalyptus	16 minims.

Has been recommended for ringworm of the scalp, but is not so efficacious as Coster's paste and other remedies; the Pigment will bear dilution with castor oil for parasitic skin diseases, destroying pediculi, &c.

Pilula Picrotoxini.

Picrotoxin $\frac{1}{60}$ grain, triturated with sugar of milk and glycerine of tragacanth *q.s.*, to make one pill. Forms a suitable dose for checking night-sweating of phthisis taken for 2 or 3 nights successively, it is slightly cumulative, and may be discontinued and yet its effects last.

References.

Physiological effects.—Edin. Jour. Med. 1861,306.

Epilepsy, useful for, especially when combined with anæmia and when the attacks occur at night.—St. Louis Clin. Rec. Oct. 1876.

Epilepsy and pharyngeal paralysis, good effects of $\frac{1}{25}$ grain by hypodermic injection.—Pr. xvii.369.

Night-sweating of phthisis, 2 to 4 minims of the acetic solution or $\frac{1}{120}$ to $\frac{1}{60}$ grain in pill was very efficient; does not, like atropine or belladonna, produce dryness of the throat, or any unpleasant effect.—Pr. xxiii.241.

Antagonism between Picrotoxin and chloral-hydrate; $\frac{1}{20}$ grain sufficient for 30 grains of chloral.—B.M.J. i./75,506,541; L.H. 238.

Periodical sick-headaches, $\frac{1}{60}$ to $\frac{1}{20}$ grain by hypodermic injection, or $\frac{1}{30}$ to $\frac{1}{15}$ grain by mouth; and an ointment 10 grains to an ounce, is used for parasitic skin affections.—B.

Used in epilepsy, not successful.—L. i./80,553.

Therapeutic uses, in checking night-sweats, &c.—B.M.J. i./80,96.

Letter on its pharmaceutical preparations.—B.M.J. i./80,351.

Antidotism to morphine and chloroform asphyxia.—L. i./89,497; P.J. 1889,703; Th. Gaz. Mar. 1889,184.

Pilocarpine.—See p. 235.

PILULÆ.

Pills.

Medicines prepared in a pilular form are very portable, as they can be supplied to the patient in the smallest possible bulk in equally apportioned doses. The pill is a convenient mode of administering nauseous medicines, those that are insoluble in water and not easily suspended in it, and those drugs whose gradual action is required. A pill should be perfectly globular and firm, so as not to lose its shape, yet should not be too hard so as to be insoluble, or even slow in dissolving, unless the prescriber wishes it, as is sometimes the case; *e.g.*, 5 grains of dried sulphate of iron with one minim of syrup form a not very large but useful pill, which, by dissolving slowly, does not derange the stomach, whereas an equivalent dose of the salt in solution would, in many cases, act as an emetic. Again, dinner pills of aloes and mastic are prescribed to be made up with spirit by some physicians, who intend them to dissolve, not in the stomach, but in the bowels principally, where their peristaltic action is required. It is the duty of the dispenser not to deviate from using the excipient ordered, unless, for example, a fluid excipient is ordered along with extracts whose normal condition is too soft to begin with. If the choice of the excipient be left to the dispenser, as is often the case, he should choose one which will not be incompatible with, but, if possible, have a preservative action on the other ingredients of the pill, neither inconveniently increase its size nor interfere with the quick or prolonged action intended by the prescriber.

The Pill Mass, in the first place, should be firm and solid, yet possess tenacity and be plastic when worked. As, in building a wall, bricks and mortar are required in due proportion, so a good pill mass requires particles void of fluidity, with adhesive, semifluid substance to bind them together. Where there is but little fibrous or insoluble solid particles prescribed, the mass should be made as hard as possible and quickly rolled out, else the pills will not keep their shape. Most vegetable powders contain fibrous matter and have their adhesive properties while dry in a latent condition, these merely require a suitable fluid added to develop their tenacity and enable them to be rolled into pills. As a powerful solvent and preservative, glycerine, diluted with one-half its volume of rectified spirit, used discreetly, is a good excipient for such powders. If used in the pure state in the slightest excess, glycerine, being slightly hygroscopic, causes the pills in time to have an unsightly, moist appearance, whereas, if diluted with spirit, the spirit readily evaporates from them. Glycerine in any form should not be used as an excipient for hygroscopic drugs, such as soft extracts, squills, aloes, &c. For these mucilage of acacia or syrup is preferred. For insoluble metallic salts, glycerine requires additional adhesiveness, for such and a number of other drugs it is best used in the form of glycerine of tragacanth (see p. 373), adding, if necessary, a small quantity of powdered acacia or althæa to give firmness to the pill. The use of glycerine should be avoided in pills intended to be varnished; in place of glycerine of tragacanth, use for these a little of equal parts acacia and tragacanth, with syrup *q.s.*

Powders to be formed into pills should be as finely comminuted as possible; any poisonous alkaloid or very active drug should be well triturated with some less active powder, or, if the formula contains no other powder, with a little sugar of milk, before mixing with the other ingredients. Having mixed the powders and diffused any essential oil evenly through them, the extracts and other excipients should be added, the whole well pounded into a mass, rolled into pills, and dusted over with lycopodium, powdered starch, or French chalk, in the usual manner.

But the public now require pills to be made as tasteless and as small as possible. A one-grain pill is much preferred to a 5-grain one; yet, unless specially ordered otherwise, when the ingredients prescribed for each pill weigh less than one grain, it is a rule with dispensers, for uniformity's sake, to triturate the ingredients with sugar of milk and glycerine of tragacanth *q.s.* to make each pill weigh one grain. These excipients, glycerine of tragacanth and sugar of milk, generally are as neutral as any that can be chosen. Pills made with them will remain plastic and active any length of time.

As a means of rendering pills tasteless, silvering or gilding is giving place to covering them with solution of sandarach, gelatine, or pearl-coating them with French chalk and gum, or sugar-coating them.

Varnishing Pills.—The writer's plan of using a sandarach solution — 1 part sandarach in 1 part of absolute alcohol (= Pill Varnish: Pharm. Jour. 1870,414)—may be done extemporaneously. The pills should be perfectly made—well mixed, and free from contamination and powder, as every imperfection will show through the transparent coating. Having placed them in a covered pot, a few drops of the sandarach solution are poured in and diffused equally over the pills by a few circular movements of the pot held in one hand. They are then poured out on a clean plate and detached from each other. After 4 minutes each one is moved, and in 10 minutes all are moved and again shaken. In about 20 minutes they will be quite dry, but are better allowed to be exposed to the air an hour or so more.

In **coating** Pills with **Gelatine**, they should be free from powder, and not too dry. A solution is prepared by dissolving 1 part of gelatine in 4 parts of water, straining whilst hot through fine muslin, allowing to cool and re-heating to get rid of air bubbles. The pills are stuck on the points of fine needles and dipped into the solution, kept hot by a water bath; as they are taken out, each needle is slowly revolved to make the coating even on the pill, the reverse end of the needle is then stuck into a sheet of cork or pincushion, and the needles are left in this upright position till the pills are dry, which is usually in about half an hour.

In **pearl-coating** Pills they should be made firm and free from powder; they are first evenly covered with a mucilage of tragacanth 4 grains to 1 ounce with half a drachm of syrup added; this is done by shaking them in a covered pot with a few drops of the mucilage, they are then thrown into another covered pot having a concave bottom and containing some finely powdered French chalk; after gently rotating them in this for a few seconds they are turned into a third clean and similar pot and rotated slowly; the excess of powder is then blown off, the lid placed on the pot, and they are finished by shaking them quickly and regularly round until they become even and polished.

The **sugar-coating** of Pills is a confectioner's art. It can only be done successfully in large quantities, and the pills must be hard and dry; they are placed in a hemispherical metallic pan kept warm, while making eccentric revolutions, and are alternately moistened with syrup, and dusted with finely-powdered sugar, till dry and uniformly covered.

The **keratine-coating** of Pills is performed for the purpose of rendering them insoluble in the gastric juice, so that they pass into the intestine unchanged. Their action is thus localised. For this purpose, only oily excipients should be used, and the pills should be covered with a thin layer of cacao-butter previous to applying the

Keratine Solution.

This is made by removing from horn shavings all that is soluble in pepsin and diluted hydrochloric acid. The residue is dissolved in solution of ammonia or glacial acetic acid, and evaporated to a mucilaginous consistence—this forms the gum-like liquid, keratine solution. The pills require three coatings with this liquid, and so prepared they are freely soluble in the alkaline liquid in the intestine; and, although insoluble in the acid gastric juice, their coating is partially soluble in acetic and citric acids, which should therefore not be taken at the same time.—P.J. 1884,422 ; 1889,1035.

Concentric Pills consist of several distinct layers of medicaments, each layer coated separately, ensuring the successive digestion of the drugs; or, if required, their solution in different parts of the body, *e.g.*, an external coating of gelatine dissolves in the stomach, an inner of keratine in the intestine; ensuring localised action.—B.M.J. ii./86,683 ; C.&D. ii./86,735,774.

In all pharmacies it is found convenient to keep a number of pills besides those of B.P. ready prepared. A list of those in general request in London is contained in the index.

Cachets are lenticular capsules of wafer paper, consisting of two watch-glass shaped halves, which cohere on moistening the margins.

They are useful for enclosing nauseous or insoluble medicines, drugs that do not yield all their activity to any solvent, and those whose suspension in fluids is difficult or inaccurate owing to non-diffusibility or decomposition, such as rhubarb, cascara, bismuth, pepsine, quinine, antipyrin, antifebrin, salicin, salicylate of sodium, salol, sulphonal, tetronal, metaldehyde, naphthalin, naphthol, saccharated carbonate of iron, They should be dipped in water immediately before swallowing.

Empty Gelatine Capsules are short tubes closed at one end, telescoping into one another, used for a similar purpose.

A pill, cachet, or, in fact, any medicine, should always be followed by a draught of water, to carry it quickly through the œsophagus.

PINUS SYLVESTRIS.

Scotch Pine (*Off.*). *Syn.*—SCOTCH FIR.

From the wood of this much of the European oleo-resin, common turpentine, oil of turpentine,* and tar are produced. From its leaves also are prepared an extract, volatile oil and wool, at certain establishments in Germany, where a system of treatment of rheumatism and other diseases by baths, &c., known as the **Pine Cure**, is followed.

Fir Wool, or Fir Wool Wadding, sold in sheets, is a cotton wool, impregnated with the above; it has the faint, agreeable odour of the Pine-leaf, and is manufactured into blankets, jackets, spencers, stockings, &c. A Liquor is obtained, which is employed for baths. On evaporation this yields.

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* **"Sanitas" Disinfectants,** prepared from oil of turpentine, include:—

"Sanitas" Fluid, the aqueous solution resulting from the action of water upon air-oxidised turpentine, containing as its active principles peroxide of hydrogen, thymol, a soluble camphor, and some camphoric acid. It is an oxidising agent and an antiseptic, is non-poisonous, does not stain linen, is useful for household disinfection and for surgical operations. **Toilet "Sanitas"** is similar, with an agreeable perfume. **"Sanitas" Oil** is an air-oxidised turpentine, the oxidation being conducted in the presence of water; it has **Sp. Gr.** 0·95. An organic peroxide is present in it, which gives it an oxidising strength equal to that of a ten-volume solution of peroxide of hydrogen. As an antiseptic it may be mixed with sawdust and sprinkled about, or diluted with alcohol or methylated spirit and sprayed in a room, or diluted 1 in 8 to 20 of olive oil for various surgical dressings and affections of the skin. Mixed with powdered acacia, then boldly diluted with water and well shaken, it forms a "Sanitas" emulsion which can be diluted further *ad lib.* for various purposes.

Extractum Pini Sylvestris. Fir-Wool Extract.

A dark brown liquid of the consistence of treacle, readily soluble in water and having a faint pine odour; 2 to 4 ounces are added to a 30-gallon warm bath for rheumatism.

Oleum Pini Sylvestris. Fir-Wool Oil (*Off.*).

In the preparation of the wool this is obtained by distillation from the pine-leaf. It is colourless, and has the agreeable odour of the fresh pine-leaf. It has Sp. Gr. 0·868. For rheumatism it is applied by rubbing, and the affected part is afterwards covered with warmed Fir-wool wadding; it is also added in quantities of a drachm or more to warm baths for the same disease.

Vapor Olei Pini Sylvestris (*Off.* and **T.H.**)

Fir-Wool Oil	40 minims.
Light Carbonate of Magnesium	20 grains.
Water, to	1 ounce.

One drachm to a pint of water at 140° F. forms a mild stimulant inhalation in chronic laryngitis.

Oleum Pini Pumilionis, T.H., 1876 (but deleted from last edition). Under the fancy names of Pinol and Pumiline, the oil of the leaf of Pinus Pumilio is recommended as possessing more agreeable odour and taste than the last. The oil is used for inhalations, and an extract for baths. Jujubes, pastilles, and soaps are also sold, medicated with the oil.—L. i /88,463.

Sanitary Wood Wool, and **Wood Wool Wadding** consist of finely-comminuted pine wood, rendered antiseptic with sublimate; they are very absorbent, and are now much used for dressing wounds; and the wadding is formed into "diapers" for ladies' use in menstruation and hæmorrhage, and into accouchement sheets; triangular pads are also made (bapkins) to assist in the cleanliness and comfort of infants.—L. ii./87,806,848; B.M.J. ii./87,1044.

PIPERINA.

Piperine, U.S.

Dose.—1 to 10 grains.

A crystalline base obtained from black and long pepper, the fruits of *Piper nigrum* and *Piper longum*, in large colourless prisms, which turn yellow with keeping. Insoluble in water, soluble in alcohol, and less soluble in ether. Almost tasteless, but its spirituous solution has a peppery taste. The pungency of pepper is not due to Piperine. It has been used in conjunction with eucalyptol for neuroses and congestion of the spleen.

Febrifuge action is energetic, it neither changes, retards, nor suppresses any secretion or excretion.—M.T.G. ii./60,18.

Ague cured by doses amounting to 18 grains a day.—B.M.J. ii./86,449.

PISCIDIA.

Jamaica Dogwood.

The bark of the root of this tree, *Piscidia erythrina*, is employed in the West Indies to intoxicate fish. In America it is employed to relieve toothache, and as a general sedative; it is said to be specially useful in allaying the cough of bronchitis and phthisis; does not interfere with expectoration, or lower the vital force. —P.J. 1844,76,111. It is said to be an effective substitute for opium, to allay pain, spasm, and nervous excitement, and to produce tranquil sleep. It dilates the pupil.

Extractum Piscidiæ Liquidum.

Dose.—20 minims to 2 drachms.

One drachm equals 1 drachm of the bark. Is a good narcotic, does not cause headache nor constipation.—B.M.J. ii./83,903; P.J. 1886,1014,162.

PIX LIQUIDA.

Tar (*Off.*).

Dose.—2 to 10 grains in a pill with lycopodium, or in perles.

Since Bishop Berkeley wrote his "Siris" in praise of tar-water, to which the phrase, "cheer but not inebriate," was applied by him, and since Dickens's "Joe Gargery's wife" had such belief in its virtues, when given internally, Tar has comparatively fallen into disuse.

As a diuretic and in bronchial catarrh and winter cough, it is very useful.—B.M.J. ii./75,380,498.

On account of their antiseptic properties, both Wood and Coal Tar and preparations of them have been used for surgical dressings. The former yields Creasote, which is a much more powerful although a less manageable germicide than the carbolic acid or cresylic acid contained in the latter. During the late American war oakum (old tarred rope carded) was much employed as an absorbent antiseptic wound-dressing; but generally its fibres are too coarse and harsh; yet, under the name of **Tenax**, a fine carded oakum is sold in 1-lb. packets.

Marine Lint, also in 1-lb. packets, is tow impregnated with fresh tar; is a cheap and useful antiseptic dressing.—B.M.J. i./80,476.

Aqua Picis. Tar Water; *Syn.*—Aqua Picea; Eau de Goudron (Codex 1884).

Tar	1.
Pine Sawdust	3.

Mix and add

Distilled Water	200.

Macerate, with frequent shaking, for 24 hours, and filter. *Dose.*—5 to 10 ounces.

Oleum Picis Rectificatum, Light Oil of Tar.

Two distilled oils of Wood Tar are met with in commerce, one light, known also as Rectified Spirit of Tar, having Sp. Gr. 0·853 to 0·867, is colourless when fresh, but becomes sherry-coloured with age; this is a most powerful deodoriser, and is used for making Coster's paste (p. 229). The other is an opaque black dense oil, heavier than water.

Perles of Tar.

Dose.—1 or 2. The Tar is enclosed in small globular capsules, containing about 2½ grains in each.

Pilula Picis Liquidæ.

Tar...	2 grains.
Lycopodium	1 grain.

Make a Pill.

Dose.—1 or 2; useful for winter cough.—B.M.J. i./75,498.

Syrupus Picis Liquidæ, Syrup of Tar, U.S.

Tar 6 (washed with cold water, 12, during 24 hours), stir with Boiling Water 50 for 15 minutes, and after 36 hours filter, and dissolve Sugar 60 in filtrate without heat.

Dose.—1 to 4 drachms.

Taste may be covered by addition of an equal quantity of syrup of wild cherry (see p. 322); $\frac{1}{33}$ to $\frac{1}{10}$ grain of hydrochlorate of apomorphine may also be added to each dose. Useful in chronic bronchitis and winter cough.—B.M.J. i./88,463; M.P.C. i./89,213.

Unguentum Picis Liquidæ. Tar Ointment (*Off.*).
Tar 5, Yellow Wax 2.

Useful in psoriasis.

For use in skin diseases, four special kinds of Tar, imported from Germany, are met with. Unlike common Tar, they are perfectly liquid. They are also known as empyreumatic or pyroligneous oils, viz.:—

Oleum Betulæ Pyroligneum. Birch Tar.

Oleum Cadinum. *Syn.*—Oleum Juniperi Pyroligneum. Juniper Tar. Huile de Cade. Said to be obtained from *Juniperus Oxycedrus.*

Oleum Fagi Pyroligneum. Beech Tar. On the Continent used as a source for creasote.

Oleum Rusci Pyroligneum. Said to be obtained from Butcher's Broom. (This must be distinguished from the *Oleum Rusci*, almost colourless, prepared in Germany by digesting Butcher's Broom in olive oil.) Is really a Birch Tar, identical with the above.

These Tars have similar properties for forming ointments for skin diseases; their odour is less disagreeable, they are cleaner, and they are thought to be more efficacious than common Tar. The Birch Tar is esteemed on account of its peculiar odour, well known in Russia leather. Oleum Cadinum (Huile de Cade) is the most used. They are all soluble in oils, fats, wax, unctuous petroleum, and chloroform, but do not perfectly blend with alcohol.

Unguentum Olei Cadini.

Yellow Wax ... ... 1 ounce.

Melt and add

Huile de Cade ... ... 1 ounce.

Heat gently and stir till cold. Used in psoriasis and dry eczema. Similar ointments may be made of the other Tars, the proportions may be varied and lard may be used as a diluent if a weak ointment be required.

Chronic eczema, 2 cases cured by an ointment of Oil of Cade 1, Vaseline 4.—B.M.J. ii./83 817.

An ointment of Glycerine of Starch 100, Oil of Cade

100, Green Soap 5, recommended for psoriasis.—Pr. xli.222.

PODOPHYLLIN.

Syn.—RESINA PODOPHYLLI (*Off.*).

Dose.—$\frac{1}{4}$ to 1 grain as a cholagogue and aperient, $\frac{1}{30}$ to $\frac{1}{15}$ frequently as an alterative.

The resin obtained from the dried rhizome of *Podophyllum peltatum*—American mandrake, or May apple, sometimes called vegetable mercury, as it is a powerful biliary purgative. It is a pale greenish-brown amorphous powder, with an herby odour and acrid taste, soluble in aqueous ammonia, almost entirely soluble in rectified spirit, leaving undissolved inorganic impurity, with, it is said, traces of hydrochlorate of berberine.

The crude resin may be divided by treatment with ether, which dissolves a portion and leaves another which is soluble in alcohol but not in ether. The former has a bright yellow colour, an herby odour, and acrid taste; the latter has a pale brown colour, is odourless, and has a less acrid taste than the other. The writer found little difference in their purgative action. The brown resin was more prompt.—Pr. xxviii.54; P.J. 1877,456. The crude resin is a slow and rather uncertain purgative, requiring from 12 to 20 hours to act.

In a later research by Podwissotzki, he obtains from a chloroformic extract of the root an amorphous principle, which is free from the fatty and colouring matters of the official resin. This he names **Podophyllotoxin**; it is more certain in its action than Podophyllin and is given in dose of $\frac{1}{10}$ to $\frac{1}{8}$ grain, to children $\frac{1}{60}$ to $\frac{1}{30}$ grain. It is best administered by dissolving 1 grain in 2 drachms of rectified spirit. Dose, 2 to 10 drops in a teaspoonful of syrup.—P.J. 1882, 623,1011; L. ii./81,568; M.R. 1883,14. **Podophyllotoxin** is in its turn capable of being separated into a bitter crystalline acid (Picropodophyllic Acid), a bitter, crystalline neutral body (Picropodophyllin), the latter of which is the more medicinally active, and an amorphous substance (Podophyllic Acid) which is inert.

Pilula Podophyllin.

$\frac{1}{30}$, $\frac{1}{4}$ or $\frac{1}{2}$ grain of the resin in each, well triturated with sugar of milk and glycerine of tragacanth *q.s.*, to make one pill.

Pilula Podophyllin Composita, U.C.H.

Podophyllin	$\frac{1}{4}$ grain.
Barbadoes Aloes	1 grain.
Capsicum	$\frac{1}{2}$ grain.
Extract of Belladonna ...	$\frac{1}{4}$ grain.
Glycerine of Tragacanth ...	*q.s.*

To make one pill. One or two form a biliary aperient dose.

Pilula Podophyllin et Quininæ.

Sulphate of Quinine ...	1 grain.
Podophyllin	$\frac{1}{12}$ grain.
Sugar of Milk	$\frac{1}{12}$ grain.
Extract of Belladonna ...	$\frac{1}{6}$ grain.
Extract of Socotrine Aloes...	1 grain.

To make one pill. In making these pills, let the podophyllin be well triturated with the sugar of milk and then with the quinine. They are useful "dinner pills."

Tinctura Podophyllin (Dobell).

Podophyllin	1 grain.
Essence of Ginger	1 drachm.
Rectified Spirit to	1 ounce.

Dose.—A teaspoonful in water at bedtime every, or every 2nd, 3rd, or 4th night, as required, better than in pill; this forms "one of the most satisfactory and reliable of our medicines."—B.M.J. i./79,892.

Tinctura Podophylli (*Off.*).

Podophyllin	1 grain.
Rectified Spirit	1 drachm.

Dissolve and filter. *Off. dose*—15 to 60 minims.

In dose of 2 to 4 drops in tea or coffee, taken night and morning, is useful in sick-headache and biliousness, where the bowels and liver are sluggish in worried and over-worked patients, and in chronic diarrhœa with cutting pains and high-coloured motions. Also relieves constipation with clay-coloured motions following diarrhœa of infants, 1 or 2 drops on sugar twice or three times a day.—R. Its taste is acrid and disagreeable.

Tinctura Podophyllin Ammoniata.

Podophyllin	1 grain.
Aromatic Spirit of Ammonia	1 drachm.

Dissolve.

Dose.—2 to 6 minims as an alterative, 10 to 20 minims as a purgative and cholagogue, taken in a wineglassful of water or milk. Good Podophyllin will dissolve perfectly in spirit of sal volatile. This tincture has an advantage over the other tinctures of Podophyllin of forming a solution from which, on addition to water, the resin does not separate. The sal volatile also acts as a corrective.

A powerful hepatic stimulant, and in large doses a violent purgative. It is a very powerful stimulant of the liver of the dog. During the increased secretion of bile, the percentage of the special bile solids is not diminished; if the dose be too large, the secretion of bile is not increased; it is a powerful intestinal irritant.—Pr. xxiii.335; B.M.J. Rep. 1878,4; B.M.J. i./79,177.

As a purgative for children, 1 grain recommended.—M.T.G. ii./61,520.

By causing vomiting and purgation, 1 grain cured a case of convulsions in a child 3 years old.—M.T.G. ii./61,626.

Résumé of its medical properties, as a purgative and cholagogue, used in syphilis, rheumatism, and scrofula.—M.T.G. ii./70,647.

POTASSIUM.

Potassa cum Calce, P.L., consists of equal parts, in powder, of caustic potash and quicklime; it is also sold moulded into pencils. For **Vienna Paste**, see p. 336.

Potassii Cobalto-nitris. Cobalto-nitrite of Potassium.

Dose.—$\frac{1}{2}$ grain every 2 or 4 hours.

A greenish-yellow crystalline powder, slightly soluble in water. Is said to produce less discomfort than other nitrites, and to relieve arterial tension. Relieves the dyspnœa in uræmia and asthma.—Pr. xli.457; P.J. 1888, 347; Th. Gaz. Oct. 1888,635.

Potassii Cyanidum, Cyanide of Potassium (*Off.*).

Used to purify bismuth; may be either in fused masses or in crystals. No dose is mentioned, but $\frac{1}{12}$ to $\frac{1}{4}$ grain may be given; a solution of one grain of the crystals in 23 minims ($20\frac{10}{13}$ grain-measures) of distilled water is equivalent in strength to Acidum Hydrocyanicum Dilutum (2 per cent.), in place of which it is sometimes used.

Potassii Nitras, Nitrate of Potassium (*Off.*)
Syn.—NITRE; NITRATE OF POTASH.

Dose.—5 to 30 grains.

Fumus Potassii Nitratis (Nitrated Papers), T.H.P.; Charta Nitrata, P.G.

Nos. I. II. and III. are made by saturating white blotting-paper with solutions of Nitre, 30, 45, or 60 grains respectively in an ounce, and drying. No. III. is the strongest. Burnt to inhale the fumes for asthma.

Asthmatic Pastilles are prepared in cones containing a mixture of chlorate and nitrate of Potassium.

Ozone Papers are similar in composition.

In addition to the above, various powders and cigarettes are sold as nostrums, the fumes of which while burning are employed to relieve attacks of asthma, of which Nitre is a constant and Stramonium is generally an ingredient; Himrod's Cure, Bliss's Cure, and the Green Mountain Cure may be imitated by the following:—

Pulvis Lobeliæ Compositus.

Nitrate of Potassium	...	2 ounces.
Boiling Distilled Water	...	2 ounces.

Dissolve and add to

Lobelia, in powder.	2 ounces of each.
Stramonium Leaves, in powder.	
Black Tea, in powder.	

Mix well, dry, and add Oil of Anise 4 minims. The fumes of half a teaspoonful or more, burnt on a plate, to be inhaled six or eight times a day, and the bedroom fumigated with the same.

Arsenical Cigarettes are made of paper impregnated with arseniate of sodium, so that each contains $\frac{3}{4}$ grain of the salt. The patient ought to inspire the fumes deeply three or four times.—L. ii./81,83.

Ophthalmic discs contain $\frac{1}{250}$ grain nitrate of potassium combined with gelatine.

Potassii Permanganas, Permanganate of Potassium (*Off.*).

Dose.—1 to 5 grains in well-diluted solution, or in pill.

The deoxidising and disinfecting properties of a solution of this salt are well known. The official solution contains about 1 per cent. The **Saturated Solution** 1 in 20 is more convenient for use. It is deep purple, and, when much diluted, crimson. Diluted 500 times, it is suitable for a lotion or gargle, or for pouring down sinks, drains, &c. It has the advantage over other disinfectants in having this distinctive colour, so that it cannot be mistaken for any other medicine; it has no disagreeable odour, and besides being a deodoriser, it quickly disintegrates all fetid and decomposing organic substances and albuminoid bodies, whether in a solid form or in solution, living or dead, with which it comes in contact. It destroys bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258; P.J. 1881,765.

Permanganate of potassium is used for dyeing white hair to a chestnut brown colour.

In amenorrhœa, 1 or 2 grains, in a pill 3 or 4 times a day for a few days before the time of the expected period, will bring on the flow almost to a certainty.—L. i./83,7; i./85,59,70,189,322,647,925; i./88,642; B.M.J.i./85,778.

In gonorrhœa, solution of ½ grain in 1 ounce recommended as an injection.—L. i./83,45,86.

For counteracting serpents' venom.—L. i./83,768, 967; ii./83,461; i./84,288; i./88,1007,1115.

Danger of ulceration being caused by permanganate tablets.—B.M.J. i./85,308,413,516,764,974.

Amenorrhœa following sea voyages, quickly relieved by its use.—Ed. M.J. March, 1887,848.

Nine cases associated with mental disease, six cured. Pills should be taken regularly for three months.—Pr.xl.428.

Carious teeth, pain of, relieved by a mouth lotion.—L. ii./87,86.

Abortion brought on by its use, two cases.—Th. Gaz. April, 1887,282; May, 356.

Four grains three times daily after meals checks excessive menstruation and relieves leucorrhœa.—B.M.J. ii./89,125; Th. Gaz. Aug. 1889,557.

Pilula Potassii Permanganatis.

Permanganate of Potassium ... 1 gr., or more if ordered.
Kaolin Ointment (p. 240) ... *q.s.*

To make a pill, care must be taken not to triturate Permanganate of Potassium with any easily oxidised substance, like sugar, syrup, or glycerine, else spontaneous combustion may occur. The pills may be coated with sandarach solution and rendered tasteless. A solution of Permanganate of Potassium is very nauseous.—L. i./83,81, 107; P.J. 1883,580,600,620.

Permanganate of Sodium, in solution, green in colour, is used as a cheap disinfectant, and **Permanganate of Zinc**, in deliquescent dark brown iridescent crystals, like the Potassium salt, is used for lotions and injections, where the astringent action of the zinc is indicated. See p. 380. **Permanganate of Calcium** is preferred for making mouth lotions, as it has least taste.

Potassii Phosphas, Phosphate of Potassium, Dipotassic Hydric Phosphate.

A deliquescent granular powder; is given as an alterative in phthisis and urinary affections. *Dose.*—1 to 10 grains.

Potassium Silicate, solution of.—See p. 349.

Potassii Succinas, Succinate of Potassium.

A deliquescent powder; has been used in doses of 5 to 10 grains to control hæmorrhage. **Ferri Succinas,** Ferric Succinate, a reddish-brown insoluble powder, has been given to remove biliary calculi in jaundice.

PRUNUS VIRGINIANA.

Wild Cherry Bark, U.S.

This bark contains amygdaline, and on distillation with water yields an essential oil which is rich in hydrocyanic acid; on simply moistening the bark with water, the odour of the latter is developed. It possesses bitter tonic properties, with more or less sedative ones. The preparations in use here—the tincture and syrup—form agreeably flavoured medicines, which are used to palliate the cough in phthisis and bronchitis, in palpitation of the heart, and debility, particularly of the digestive organs.—L. i./80,97.

Syrupus Pruni Virginianæ, B.P.C.

Dose.—½ to 2 drachms.

Wild Cherry Bark, in No. 20 powder	3 ounces.
Sugar, in coarse powder	15 ounces.
Glycerine	1¼ ounces.
Distilled Water	*q.s.* to 1 pint.

Moisten the powder with water, and macerate for 24 hours in a closed vessel, then percolate, adding more water until 9 ounces of liquid are obtained, in which dissolve the sugar without heat. Add the glycerine, strain, and pour water over the strainer, *q.s.* to 1 pint.

Tinctura Pruni Virginianæ, B.P.C.

Dose.—20 to 60 minims.

Wild Cherry Bark, in powder 8 ounces.
Distilled Water ... ... 15 ounces.

Macerate 24 hours in a closed vessel, and add

Rectified Spirit ... ... 25 ounces.

Macerate 7 days more, express and filter, adding proof spirit *q.s.* to produce 2 pints.

Prunin. *Syn.*—CERASIN. *Dose.*—1 to 5 grains.

Is prepared by evaporating the tincture and powdering the extract. It is pale brown in colour, and has a characteristic odour.

PULSATILLA.

Pulsatilla.

Pulsatilla nigricans or *Anemone pratensis* and *A. Pulsatilla* (these two plants are by some botanists considered varieties of one species) pasque flower, meadow anemone or wind-flower.

The flowering herb imported principally from Germany.

Preparations.

Anemonin. Pulsatilla Camphor.

Dose.—$\frac{1}{60}$ to $\frac{1}{12}$ grain or more, well triturated with sugar of milk in a pill.

In neutral white volatile prismatic crystals, easily crumbled, sparingly soluble in water or ether, more soluble in alcohol, chloroform, and hydrochloric acid. Almost tasteless, but if heated is acrid and irritating. Obtained from *P. nigricans* and other species of anemone. It is poisonous—5 to 10 grains caused death of rabbits. Has been given for dysmenorrhœa and epididymitis. —Pr. xxi.377.

Is not very poisonous, 15 grains dose taken without harm.—Th. Gaz. 1887, Oct. 704, Nov. 770.

It irritates, then paralyzes, the respiratory centre, and diminishes cardiac activity and voluntary movements by acting on the spinal nerve centres. Useful in bronchitis, convulsive cough, and asthma, in doses of 0·05 to 0·1 gramme (¾ to 1½ grains) daily, taken at twice.—M.P.C. ii./86,113, *ex* L'Union Medicale.

Tinctura Pulsatillæ.

From fresh plant in an equivalent quantity to 1 of dried in 10 of proof spirit.

Dose.—1 to 5 minims, or more; for amenorrhœa or dysmenorrhœa, a minim every hour or two hours, a day or two before periods.

Pulsatilla paralyzes the medulla oblongata and spinal cord, and excites irritation of the digestive tract and the kidneys.—Clarus in Binz.

The tincture is praised as a remedy for spasmodic dysmenorrhœa and amenorrhœa.—Pr. xxi.377. Also combined with caulophyllin.—L. i./89,1132.

It is also used in catarrh of the air-passages with spasmodic cough, and some rheumatic affections. 1 to 10 of water is used as a lotion to the mucous membrane where there is a discharge of a muco-purulent character, especially useful in leucorrhœa.—Phillips, Mat. Med. and Ther.

Anemonin lessens the number of respirations and cardiac contractions in frogs, cutaneous sensibility and excitability of the motor nerves is preserved, but muscular irritability is lowered. The heart beats after respiratory movements cease.—L. ii./82,116.

Use in eclampsia and sympathetic neuroses: and other therapeutic uses in dose of tincture of 5 to 30 minims. —Pr. xxix.32.

Recommended in treatment of inflammation of the testes, cord, and epididymis.—B.M.J. i./86,98; Th. Gaz. April, 1889,246.

PYRIDINA.

Pyridine.

Dose.—5 to 10, increased to 25 minims daily.

A base, forming salts with acids, obtained from bone-oil and many organic substances by dry distillation and subsequent purification. It is a colourless liquid with a persistent empyreumatic odour, miscible with water, alcohol, ether, and oils; boils at 243° F.; is contained in and combined with nicotine in the fumes of tobacco, and M. Sée thinks it is probably the relieving agent of various cigarettes and powders smoked or burnt for asthma. It relieves dyspnœa of asthma. A drachm of it is placed on a plate in a small room, in which the patient remains from 20 to 30 minutes three times a day. The respiration becomes easy, and, after a few sittings, the disease disappears more or less completely. In frogs and guinea-pigs, the irritability of the respiratory centre is lessened.—M.R. 1885,344.

Note on the relief of asthma.—L. ii./86,744.

Has been used as a heart stimulant; valuable in angina pectoris and cardiac failure, in doses as above.—L. ii./88,438.

QUEBRACHO CORTEX.

White Quebracho Bark.

The bark of *Aspidosperma Quebracho*, imported from the Argentine Republic, is met with in pieces about $\frac{3}{4}$ inch thick, with a fibrous cinnamon brown-coloured interior, breaking with a short fracture, and having a warty, reddish ochre-coloured suberous exterior. It has a bitter, slightly aromatic taste. It contains the alkaloid Aspidospermine and other principles.—P.J. 1882,781.

Investigations by Hesse, Harnack, and Hoffmann have shown that Quebracho contains six alkaloids, and that commercial Aspidospermine is a mixture of these, viz.:—Aspidospermine, Quebrachine, Quebrachamine, Aspidospermatine, Hypoquebrachine, and Aspidosamine (amorphous). Of these the bark yields most Aspidospermine, and it is most used.

Aspidospermine Sulphate (Froude), in dose of $\frac{1}{64}$ to $\frac{1}{32}$ grain hypodermically appears to lower temperature in typhoid where quinine fails; salts of Aspidospermatine are found to be more, and those of hypoquebrachine and quebrachine less, powerful antipyretics.—L. ii./84,1018.

Seems to assist the blood in absorbing more oxygen, relieves dyspnœa from various causes.—Th. Gaz. Jan. 1888,14.

Crude Aspidospermine Sulphate is deliquescent and unstable; it is much more soluble in water than the alkaloid. Quebracho and its preparations have been employed as remedies in certain forms of asthma and to relieve the dyspnœa of this disease.—B.M.J. i./80,167; Pr. xxxiii.54.

Tinctura Quebracho.

Is prepared 1 in 5 of proof spirit.—P.J. 1879,485.

Dose.—½ to 1 drachm or more.

QUINETUM.

Dose.—1 to 5 grains or more.

The mixed alkaloids, in amorphous greyish white powder, obtained from red cinchona bark, *Cinchona succirubra*, slightly soluble in water, but readily and perfectly dissolves in it with the aid of a dilute acid. It consists principally of cinchonidine (50 to 70 per cent.) with some quinine, cinchonine, &c.; is cheaper than quinine.

Quineti Sulphas, Quinetum Sulphate.

Dose.—1 to 5 grains or more.

The crystallizable sulphates of the above, in acicular crystals resembling quinine, slightly soluble in water, but readily dissolves with the aid of an acid. May be made into pills with glycerine of tragacanth, or given in aqueous solution with acid and tincture of orange-peel. It is not nauseously bitter.

As a tonic, 1 to 3 grains; in ague 10 to 15 grains; no unpleasant effects during its administration.—M.T.G. ii./76,474.

In ague does not produce deafness; is even more powerful than quinine.—Pr. xx.83.

In ague 10 to 15 grain doses act as well as quinine.—B.M.J. i./79,800; Pr. xxii.452.

QUINIDINÆ SULPHAS.

Quinidine Sulphate. *Syn.*—CONQUININE, or CONCHININ SULPHATE (Hesse).

Dose.—1 to 20 grains.

Quinidine is an alkaloid obtained from cinchona, principally from Pitayo and Cuprea barks. The sulphate is in white acicular crystals very like sulphate of quinine. Soluble in 350 of water, 1 in 32 of absolute alcohol, rendered more soluble in water by the addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts of the sulphate with one of glycerine of tragacanth in pills. Its solution is fluorescent, but dextrogyrate, and, like quinine, with which it is isomeric, its solution produces an emerald-green colour with chlorine water and ammonia. Quinidine salts are powerful antiperiodics, equal to those of quinine, to which they stand next in market value. Quinidine Sulphate is suitable for administration to children, being less bitter than the other cinchona alkaloids.

Reference.

In typhoid and ague, doses of 15 to 30 grains with diluted sulphuric acid and peppermint water were attended by good results.—B.M.J. i./79,937, *ex* Allgemeine Medicin. Central-Zeitung.

QUININA.

Quinine.

Dose.—1 to 4 grains or more (if anhydrous, 3 parts are equal to 4 of sulphate).

The most valued alkaloid obtained from cinchona barks,—is a very bitter, white, or, if well dried, greyish white amorphous powder, slightly soluble in water, soluble in ether, alcohol, chloroform, and dilute acids. Soluble also in aqueous ammonia. One grain dissolved in a drachm of aromatic spirit of ammonia forms an agreeable dose. Its solution in diluted sulphuric acid is fluorescent, levogyrate, and gives, with solution of chlorine and ammonia afterwards added, a characteristic emerald-green colour due to thalleioquin.

Preparations in use medically, with references.

Oleatum Quininæ.—See p. 272.

Oleum Morrhuæ cum Quinina.—See p. 272.

Quininæ Arsenias, Arseniate of Quinine.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain, in a pill.

Is in small white acicular crystals, sparingly soluble in cold water. Medicinally, its arsenic is about one-tenth that of arsenious acid. It is an antiperiodic, given in chronic malarial fevers. Contains about 29 per cent. of arsenic acid, and 67 per cent. of quinine.

Quininæ Chloras, Quinine Chlorate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth.

In slender white needles, slightly soluble in water. It explodes when heated.

Quininæ Citras, Quinine Citrate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth, or slightly powdered and suspended in water, in which this salt is sparingly soluble—1 in 900—has, therefore, little taste in this form. It is in acicular crystals like the sulphate.

Ferri et Quininæ Citras (*Off.*).

Dose.—5 to 10 grains in aqueous solution, or in pills with simple syrup or mucilage of acacia (not in excess, as, unless made very hard, they lose shape). This much-used preparation contains 16 per cent. of quinine, is in greenish golden scales, slightly deliquescent and very soluble in water. It has an agreeable bitter, chalybeate taste.

Granular Effervescent Citrate of Iron and Quinine.

Dose.—60 grains = 3 grains of above salt.

Syrupus Ferri et Quininæ Citratis.

Dose.—1 drachm or more.

Is generally prepared by dissolving 3 grains Citrate of Iron and Quinine in a drachm of syrup of orange-peel.

Ferri, Quininæ et Strychninæ Citras (p. 355) is the former preparation, with 1 per cent. of strychnine added.

Quininæ Fluoridum.—See p. 18.

Quininæ Hydrobromas, Quinine Hydrobromate.

Dose.—1 to 5 grains or more.

In white acicular crystals, smaller than the sulphate, and much more soluble in water (1 in 24). Quinine is given with an excess of hydrobromic acid to lessen the cinchonism sometimes caused by large doses.—B.M.J. ii./76,42. Use as an antipyretic. — Pr. xxi.443. In acute rheumatism.—Pr. xli.58.

Quininæ Hydrobromas Acida, Quinine Acid Hydrobromate.

Dose.—½ to 2 grains hypodermically.

In yellowish large rectangular prisms or masses of crystals, or in powder. A very soluble salt of quinine, dissolves 1 in 6 of water, richer in the alkaloid than the sulphate, is therefore well adapted for hypodermic injection. It is entirely unirritating.—M.R. 1880,443.

The best salt for hypodermic injection; the bromine element tends to correct quinism.—Th. Gaz. Jan. 1889 64.

Injectio Quininæ Hydrobromatis Acidæ Hypodermica.

Acid Hydrobromate of Quinine	1 grain.
Distilled Water to	6 minims.

Dissolve.

Dose.—3 to 12 minims. Useful in ague where quinine cannot be borne by the stomach; a very much less dose of this will act than that required to be given by the mouth.

Hypodermic Lamels of **Quinine** contain ½ grain.

Quininæ Hydrochloras, Quinine Hydrochlorate (*Off.*).

Syn.—MURIATE OF QUININE.

Dose.—1 to 10 grains.

In acicular white crystals generally larger than the sulphate, soluble 1 in 24 of water, 1 in 3 of rectified spirit.

Very soluble salt of Quinine, and richer in alkaloid than the sulphate; contains 83 per cent. against 74½ per cent. in the sulphate. Now used for making Tincture of Quinine and as an antiseptic.—P.J. 1878,407.

Is a powerful germicide; 1 in 800 prevented the development of any germs in a liquid suitable for their growth.—B.M.J. ii./81,408; Trans. Med. Congress, 1881,i.466.

Quininæ Hydrochloras Acida.

Dose.—½ to 2 grains, hypodermically.

In white or yellowish white crystalline crusts very soluble in water. 1 grain in 6 minims is suitable for hypodermic injection.

Quininæ Iodas, Iodate of Quinine.

Dose.—1 to 5 grains.

Is in moderately soluble white silky needles.

Quininæ Iodidum, Iodide of Quinine.

Syn.—QUININÆ HYDRIODAS, Quinine Hydriodate, QUININÆ HYDRIODIDUM, Quinine Hydriodide.

Dose.—1 to 5 grains.

Is in minute pale-primrose coloured crystals, but slightly soluble in water.

Quininæ Iodidum Acidum, Acid Iodide of Quinine.

Syn.—QUININÆ HYDRIODAS ACIDA, Quinine Acid Hydriodate, QUININÆ HYDRIODIDUM ACIDUM, Quinine Acid Hydriodide.

Dose.—1 to 4 grains.

Is in golden acicular crystals, freely soluble in water. must be kept from the light. A saturated solution (about 2 grains in an ounce) in syrup of iodide of iron forms **Syrupus Ferri et Quininæ Iodidi.**

Dose.—1 drachm.

Quininæ Lactas, Lactate of Quinine.

Dose.—1 to 5 grains, or more.

In commerce is found as a granular white amorphous powder, soluble 1 in 10 of water; said to be easy of digestion.

Is a very soluble salt of quinine and suitable for hypodermic injection.—L. ii./85,310; Th. Gaz. April, 1889,285.

For gonorrhœa, 1 per cent. solution forms an excellent injection.—Pr. xxxiv.132.

Quininæ Phosphas, Phosphate of Quinine.

Dose.—1 to 6 grains. Is in acicular crystals like the sulphate, but harder and denser.

Quininæ Salicylas, Quinine Salicylate.

Dose.—2 to 6 grains.

In white silky flexible acicular crystals, sparingly soluble in water, about 1 in 900, and the addition of acids does not help its solubility. Should be administered suspended in water, or better in pills with glycerine of tragacanth and a little acacia as excipients. In 3-grain pills; recommended for diarrhœa.

Useful in rheumatic gout, 3 grains every 6 hours.—L. i./80,540,582.

Quininæ Sulphas, Sulphate of Quinine (*Off.*).

Syn.—QUININÆ SULPHATE; DISULPHATE OF QUININE. (Formerly so termed, often now called simply Quinine, as it is the salt most largely manufactured and most cheaply and conveniently made.)

Dose.—1 to 5 grains as a tonic; 5 to 15 grains or more as an anti-periodic.

In slightly flexible acicular snow-white crystals, with a pure, intensely bitter taste. Soluble 1 in 740 of cold water, 1 in about 100 of rectified spirit, 1 in 40 of glycerine, is precipitated from solution by tannic acid, alkalies and their carbonates, but redissolved by an excess of aqueous ammonia. It is generally prescribed in solution or pills. To render ordinary doses of it soluble in water, a dilute mineral acid in the proportion of at least one minim to each grain should be ordered, the sulphate should be moistened with a little water before the addition of the acid, particularly if this be sulphuric acid, the soluble acid salt formed will thus be held in solution, and this may be diluted *ad libitum.* Tincture of orange-peel agreeably harmonizes with and covers the bitterness of Quinine. Although incompatible with alkalies, it is often ordered in conjunction with aromatic spirit or carbonate of ammonia, which precipitate the alkaloid as a sticky mass on the sides of the bottle. To avoid this separation, some mucilage of acacia should be prescribed in the mixture, which prevents the aggregation of the alkaloid and holds it suspended in the liquid. In cases of fever, large doses are thought to be more efficacious with the sulphate of quinine not dissolved. It may be given in moist wafer paper, or, diffused in water if lightly powdered so as to break the crystals, but not to make them cake and adhere. It can be conveniently formed into pills by adding to 4 parts 1 of glycerine of tragacanth, carefully avoiding excess of the latter, or strong sulphuric acid in the proportion of one drop to five grains, makes a good pill; confection of hips is often used as an excipient, 3 parts require 1 or more of confection. The uses of Quinine internally are well known. Its solution possesses powerful antiseptic properties. Three grains to an ounce as an eye lotion has a specific action in diphtheritic ophthalmia.—L. i./80,125; L. i./82,6; L ii./83,12.

Testing for purity of.— P.J. 1887,647,235.

Catarrh relieved by pills of quinine, atropine, and arsenic.—Pr. xxxviii. 179. See p. 68.

Eruptions produced by Quinine.—L. ii./88,1267; B.M.J. i./89,608.

Collunarium Quininæ, Quinine Nasal Douche, T.H.

Sulphate of Quinine ...	½ grain.
Water	1 ounce.

Dissolve by the aid of gentle heat. Used in hay-fever, a little is placed in the palm of the hand and drawn up through the nose. If a stronger solution be required the Acid Sulphate or Hydrochlorate of Quinine should be used; an excess of acid for this purpose should be avoided.

Perles of Sulphate of Quinine (Pelletier's).

Contain 10 centigrammes ($1\frac{1}{2}$ grains) in each.

Syrupus Ferri, Quininæ et Strychninæ. Phosphatum.—See Ferri Phosphas, p. 188.

Tinctura Quininæ (*Off.*).

Dose.—$\frac{1}{2}$ to 2 drachms.

Hydrochlorate of Quinine 1 grain is dissolved in a drachm of tincture of orange peel, and after three days filtered. A very agreeable form of taking small doses of Quinine. As suggested by the writer, Hydrochlorate of Quinine is now used in place of Sulphate.—P.J. 1878,407.

Tinctura Quininæ Ammoniata (*Off.*).

Sulphate of Quinine ...	160 grains.
Proof Spirit	8 ounces.

Mix. Also mix

Solution of Ammonia ...	$2\frac{1}{2}$ ounces.
Proof Spirit	$9\frac{1}{2}$ ounces.

Add this to the above mixture, and the Quinine will dissolve immediately. Contains one grain in a drachm. The quinine precipitates on addition to water; mixed with an equal quantity of syrup of orange-peel, it is palatable, keeps bright, and bears dilution better.

Dose.—$\frac{1}{2}$ to 2 drachms.

Vinum Quininæ (*Off.*).

Contains one grain of the sulphate with a grain and a half of citric acid dissolved in one ounce of orange wine.

Dose.—$\frac{1}{2}$ to 1 ounce.

It is a much more satisfactory preparation, keeps brighter, &c., if made with the Hydrochlorate of Quinine.

Warburg's Fever Tincture. A nostrum, the published formula of which shows that it is a proof spirit tincture, containing Sulphate of Quinine 1 in 50. Socotrine Aloes 1 in 40, Opium about 1 in 4,000, Rhubarb 1 in 125, Camphor 1 in 500 with several aromatics.—L. ii./75,716. As it is apt to purge as above prepared, the aloes may be omitted *if so prescribed.*

Dose.—1 to 4 drachms or more. Originally directed for Indian fever, ague, &c., half an ounce as a dose repeated in 2 or 3 hours; before giving the first dose the bowels should be freely opened, and no food recently taken. Between the two doses nothing should have been taken but a little brandy or beef-tea, and this only if the state of the patient required it.

Not to be compared with aconite in remittent fever.—Pr. xxvi.187.

Quininæ Sulphas Acida, Quinine Acid Sulphate.

Syn.—SOLUBLE SULPHATE OF QUININE, NEUTRAL SULPHATE OF QUININE (so-called when the other sulphate was called Disulphate).

Dose.—1 to 5 grains or more.

Usually met with in large rectangular prisms or masses of crystals. Soluble 1 in 12 of cold water.

Injectio Quininæ Sulphatis Acidæ Hypodermica.

Acid Sulphate of Quinine ...	1 grain.
Water, to	12 minims.

Dissolve. *Dose.*—4 to 18 minims.

Quininæ Sulphocarbolas, Quinine Sulphocarbolate.

Dose.—1 to 6 grains in pill with glycerine of tragacanth. One part of Sulphate of Quinine and two parts of Absolute Phenol, liquefy and form an oily, colourless fluid. If hot aqueous solutions of the two are mixed in equivalent quantities, Sulphocarbolate of Quinine separates on cooling. This salt is met with in commerce as an amorphous white powder, soluble 1 in 680 of water, 1 in 74 of rectified spirit. The so-called Carbolate of Quinine is generally a Sulphocarbolate as found in commerce.

Quininæ Tannas, Tannate of Quinine, P.G. 1872. *Dose.*—1 to 4 grains. An amorphous whitish insoluble powder, obtained by the decomposition of the sulphate with a solution of tannin. Being almost tasteless, is recommended for children, to be given in milk.

Quininæ Valerianas. *Dose.*—1 to 4 grains.

In white shining crystalline, odourless, rhomboidal plates, or, as more frequently met with in commerce, an amorphous white powder with a slight valerianic odour, soluble 1 in 110 of cold water; best administered in pills with glycerine of tragacanth and a little acacia as excipients; given in nervous headache and hysteria.

QUINOIDINA.

Quinoidine. *Syn.*—CHINOIDIN, U.S.

Dose.—1 to 5 grains or more.

The mixed amorphous alkaloids, purified from resin, obtained as a bye-product in preparing salts of cinchona alkaloids. It is a brownish-black, resinous-like substance, has a vitreous fracture, nearly insoluble in water, is dissolved by acid solutions, which deposit on dilution. Solutions either in boric or sulphuric acid are used as cheap febrifuges. The taste of these is very nauseous.

RESORCIN.

Dose.—5 to 15 or 30 grains.

A derivative of benzene or phenol, in white crystalline plates, larger than, but resembling, benzoic acid in appearance, melts at 110° F., and is easily volatilised. Soluble in less than 2 parts of water, and 1 in 20 of olive oil. It possesses powerful antiseptic properties. A one per cent. solution prevents putrefaction in such substances as pancreas, blood, and urine, and a stronger solution will destroy the vitality of low organisms. It coagulates albumen, and has a caustic action on the skin, but a 2 per cent. solution is not irritating to it. It is an effective remedy in diphtheritic affections, and produces no injurious consequences. A 5 per cent. solution may be injected into the bladder without causing any irritation, and is useful in inflammatory affections of this organ, likewise in vesical catarrh after gonorrhœa; 5 to 10 per cent. solution is of service also in syphilitic sores and skin diseases; and a 1 per cent. solution improves the appearance of unhealthy wounds, and is useful as an eye lotion in conjunctivitis. Given internally, it has a specific action comparable to quinine, but it is apt to produce profuse perspiration, and its antipyretic action is short; it is best administered well diluted with water and flavoured with syrup of orange or glycerine.—

L. ii./80,777; L. ii./81,1065; B.M.J. ii./81,944; Pr. xxvii.381; Pr. xxix.189; Pr. xxx.63. Doses of 15 grains dissolved in Castor Oil are useful in diarrhœa, and 1 grain with a drachm of Infusion of Chamomile every two hours for cholera infantum.

Plaster Mulls are spread containing 50 per cent. of **Resorcin.**

Use as an application in cancer.—L. ii./82,1033.

Case of poisoning by, with recovery.—M.T G. ii./81,486.

Whooping-cough, 30 successful cases treated by spray of resorcin every two hours.—B.M.J. i./84,695; and as a pigment to the larynx 1 per cent. solution used.—Edin. Med. Jour. 1884,61.

For impetiginous eczema, 1 or 2 to 10 of vaseline.—Edin. Med. Jour. 1884,66. For lupus.—B.M.J. i./86, 956.

In diphtheria, 50 per cent. solution as a pigment, and internally 1 to 4 grammes daily.—L. ii./85,452; B.M.J. ii./88,980.

Useful as a topical application in diphtheria, also internally in hectic with night sweats; these were unaffected by quinine alone, but under resorcin 2 grains and quinine 3 to 5 grain doses an improvement rapidly took place.—L. ii./85,558.

In psoriasis, a 20 per cent. ointment stains little, does not smell badly, nor injure the general health, but causes some pain.—L. ii./85,577.

Local application to condylomata and mucous patches.—L. i./87,41.

Sea sickness, relieved by its internal use.—L. i./88, 39; Th. Gaz. 1888, March, 190.

Gonorrhœa, good effects from a 2 to 3 per cent. injection.—Nouveaux Remèdes, Dec. 1, 1885.

Notes on its value in gastric and cutaneous diseases.—L. i./88,570.

Pigment of 10 per cent. relieves irritation of tubercle of larynx.—L. i./88,39.

Continued application of 1 per cent. ointment cured keloid.—B.M.J. ii./88.952.

Eczema of eyelids; cold cream with 2 per cent. of resorcin useful.—B.M.J. ii./88,1368. Chronic eczema, Th. Gaz. June, 1888,370.

Thio-Resorcin.

A combination of resorcin and sulphur, in yellowish white, inodorous, and non-poisonous powder, insoluble in water, slightly soluble in ether and alcohol. Has been used as a substitute for iodoform, as dusting powder and 10 to 20 per cent. ointment.—L. i, 89,1157; P.J. 1889,704; Y.B. 1890,306.

RHAMNI FRANGULÆ CORTEX.

Frangula Bark (*Off.*). *Syn.*—BLACK ALDER; CORTEX FRANGULÆ.

This bark is imported principally from Holland in quills about half a line thick, with a warty, greyish brown exterior; contains the crystalline principle Emodin, this is also found in rhubarb root. The bark should not be employed medicinally until it is at least one year old, else, it is stated, it produces sickness as well as purging. It possesses tonic, laxative properties, does not cause griping, and does not need the dose increased if habitually taken. It is especially useful in cases of hæmorrhoids.—P.J. 1871,152; P.J. 1874,889.

Extractum Rhamni Frangulæ (*Off.*).

Dose.—15 to 60 grains. Is a proof spirit extract.

Extractum Rhamni Frangulæ Liquidum (*Off.*). *Dose.*—1 to 4 drachms.

The bark is exhausted by boiling with successive quantities of water, the decoctions concentrated, and spirit added, so that one ounce = one ounce of bark.

Trochisci Rhamni Frangulæ are sold as a special preparation under the name of "Aperient Fruit Lozenges."

Dose for an adult.—1 to 1½ or 2 lozenges.

RHAMNI PURSHIANI CORTEX.

Sacred Bark (*Off.*). *Syn.*—CASCARA SAGRADA.

The dried bark of *Rhamnus Purshianus.*

Dose.—3 to 15 grains in cachets.

Chemical notes on.—P.J. 1888,804.

Cascara Capsules Represents half a drachm of Liquid Extract.

Dose.—1, 2, or more. Some contain, in addition, 1 grain Euonymin in each. *Dose*, 1 or 2 at bedtime.

Elixir Cascara Sagrada, B.P.C.

Tincture of Fresh Orange Peel, 2 ounces; Rectified Spirit, 1 ounce; Cinnamon Water, 3 ounces; Syrup, 6 ounces; Liquid Extract of Cascara Sagrada, 8 ounces.

Dose.—15 minims to 2 drachms. Very small doses three times a day are pleasantly laxative. The taste is agreeably disguised.

Extractum Cascaræ Sagradæ (*Off.*).

Dose.—2 to 8 grains in pill.—Is a weak spirituous extract. (*Cascara Sagrada* should be indeclinable.)

Extractum Cascaræ Sagradæ Liquidum (*Off.*).

Dose.—10 to 60 minims. Is prepared as Extractum Rhamni Frangulæ Liquidum.

Extractum Cascara Liquidum Insipidum.

Dose.—10 to 60 minims.

Macerate 1 pound of powdered Cascara Bark with a mixture of 1 ounce Calcined Magnesia and 10 ounces Water, in a percolator, for 12 hours, then add 10 ounces Alcohol (Sp. Gr. 0·820), and when absorbed add Dilute Alcohol (Sp. Gr. 0·928) until the percolate begins to drop. Then close the percolator, and macerate for 24 hours, after which percolate, concentrating the latter portion, and adjust strength so that 1 = 1 of bark. 5 or 10 per cent. of Glycerine may be added to the Alcohol if preferred. Cases in which used.—Pr.xl.435.

This process destroys the activity of the drug.

Pastils of Cascara each contain 2½ grains of Extract, and are coated with Tolu.

Dose.—1 or 2.

Syrupus Cascara Sagrada, B.P.C.

Liquid Extract of Cascara Sagrada, 4 ounces; Liquid Extract of Liquorice, 3 ounces; Carminative Tincture, 2 drachms; Syrup sufficient to produce one pint. Mix.

Dose.—As an aperient, 1 to 4 drachms; or for children, one-half to a teaspoonful, according to age. As a laxative, very small doses should be taken three times a day.

Tinctura Laxativa.

Dose.—20 to 60 minims.

Liquid Extract of Cascara Sagrada, Aromatic Spirit of Ammonia, Spirit of Chloroform, Tincture of Belladonna, Tincture of Nux Vomica, of each equal parts. This is an agreeable and elegant form of administering cascara, the ammonia rendering it perfectly miscible with water.

In obstinate constipation, 20 drops of the liquid extract, 3 times a day, gradually lessened, establishes a habit of regularity; for children smaller doses give good results.—B.M.J. i./83,456.

Acts as a vegetable bitter, increases peristalsis, empties rectum, and is useful for internal piles.—Edin. Med. Jour. 1884,753,845.

Is certainly a good laxative in habitual constipation.—B.M.J. i./84,556.

Cascara Amarga, Picramnia Bark.

A fluid extract of this is said to be tonic, alterative, and antisyphilitic.

RHUS.

Poison Oak. *Syn.*—POISON IVY; RHUS TOXICODENDRON LEAVES.

Tinctura Rhois. *Dose.*—2 to 5 or 15 minims.

Imported from North America, prepared from fresh leaves, 1, alcohol, 2. A German formula is:—Expressed juice, 5; alcohol, 6. The emanations of the living plant produce an eczematous eruption of the skin. It has been used for rheumatism in chronic cutaneous affections, paraplegia, and incontinence of urine from atony of the bladder.—Th. Gaz. Dec. 1888,853; Oct. 1889,676: Feb. 1890,63.

Emplastrum Rhois in rubber combination, 1 yard rolls, is an imported preparation.

The bark of the root of **Rhus Aromatica,** Sweet Sumach, is said to be pungent, aromatic, astringent, stimulant, diuretic, and tonic; useful in diseases of the urinary organs and atonic diarrhœa. The fruit and bark of the common sumach, *Rhus glabra,* are also used as astringents.

Rubidium Ammonium Bromide. See p. 50.

RUMICIN.

Dose.—1 to 4 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Rumex crispus*—yellow dock. Possesses astringent, tonic, and antiscorbutic properties, and is given in scrofulous skin diseases and as a depurative in congested liver and dyspepsia. Yellow dock root contains Chrysophanic Acid.

Tinctura Rumicis.

One of yellow dock root in 10 of proof spirit.
Dose.—1 to 10 minims or more.

SACCHARINUM.

Saccharin. *Syn.*—BENZOYL - SULPHONIC - IMIDE; BENZOIC SULPHINIDE; ANHYDRO-ORTHO-SULPHAMINE-BENZOIC ACID. (It is viewed as an imide, not a true acid.)

Dose.—½ to 2 grains, or more,—*ad libitum* is recommended.

A derivative of toluene, obtained from coal tar; in commerce is found as a white, intensely sweet, and minutely crystalline powder, rather light and flocculent, its dust being easily detected in the atmosphere by its sweet taste. When heated to 200° C., and slightly over, it first fuses and then sublimes (leaving no residue if chemically pure), but is partially decomposed, yielding a white, choking, as well as sweet, vapour. It is only slightly soluble in water, *i.e.*, 1 in 500 volumes (or in one-third the quantity if boiling), in rectified spirit 1 in 35, in proof spirit 1 in 80, in ether 1 in 100, in chloroform 1 in 50, and in glycerine about 1 in 50. It is but slightly soluble in oils and fats,—olive, or cod liver oil does not dissolve one-quarter per cent. of it. Its aqueous solution has an acid reaction; it forms crystalline sweet salts with alkaloids and metallic bases. Solutions of alkalies and their carbonates dissolve it, the latter evolving carbonic anhydride. When fused with potash or soda it is partially converted into salicylic acid, forming corresponding salicylates, which, on testing with perchloride of iron, give the characteristic reaction of these salts. It dissolves in concentrated sulphuric acid, forming a colourless solution, which remains so, even when heated; dissolved in caustic potash solution it should not reduce Fehling's solution, when they are heated together, showing absence of true sugars.

Preparations containing much excess of alkali in conjunction with it, in aqueous solution, are to be avoided, as a mawkish taste is developed which masks its sweetness. In fact, its sweetness, the writer thinks, is purest in its uncombined solutions, not in its saline combinations, and it is most evident when this is somewhat dilute; if tasted in the pure state its sweet flavour is too intense, and that of bitter almonds is slightly developed. The latter may sometimes be detected as an after-taste in the stronger solutions. Saccharin is with difficulty freed from it entirely.

Its sweetening power is variously estimated by some as being 300 times that of sugar, by others as not more than 100 times. 1 in 10,000 of distilled water is quite sweet, and it is possible to detect 1 in 70,000 (a grain in a gallon). Its sweetness in diluted solution much resembles that of sugar. By experiment the writer finds that a mixture of one part of Saccharin dissolved in 50 of rectified spirit, and added to 7,000 of distilled water, is scarcely distinguishable from a mixture of 250 parts of sugar in 7,000 of distilled water with the same amount of spirit added; the taste of the Saccharin mixture is more persistent,—remains longer on the palate than that of the sugar mixture.

Saccharin (about 2 grains of the soluble preparation, or 40 minims of the elixir, in an 8-ounce mixture) disguises the taste of nauseous drugs, such as salicin, salicylate of sodium, cascara, nux vomica, and strychnine, and is used to flavour gluten and cocoanut biscuits for diabetic patients.—B.M.J. ii./87,732; M.P.C. ii./87, 342; L. i./89,246.

Saccharin is now acknowledged to be not chemically pure benzoic sulphinide, but to contain only about 60 per cent. of this, standardised to a sweetening power of 300 times that of sugar.—P.J. 1889,561, *ex* Chemiker Zeitung.

Saccharinum Solubile, Soluble Saccharin, contains about 90 per cent. of Saccharin in combination with soda. In yellowish-white granular, micro-crystalline masses, easily soluble in water, and therefore convenient for flavouring purposes.

Dose.—$\frac{1}{2}$ to 2 grains or more.

Elixir Saccharini, B.P.C., Elixir of Saccharin. Saccharin 24 grains, Bicarbonate of Sodium 12 grains, Rectified Spirit 1 drachm, Distilled Water 7 drachms. Mix, dissolve, and filter. 20 minims contain 1 grain of Saccharin, sufficient to flavour a 4-ounce mixture.—P.J. 1887,436.

Tabellæ Saccharini, Saccharin Tablets. Each contains ½ grain of Saccharin, combined with bicarbonate of sodium.

Cocainæ Saccharis. See p. 136.

References.

Saccharin is a harmless drug, valuable as a substitute for sugar in cases of diabetes.—L. i./87,644; L. ii./87, 834. Editorial summary.—B.M.J. ii./87,838.

Sweet taste may become persistent.—B.M.J. i./88, 296.

Report on its action and uses.—Th. Gaz. 1887, 821.

May cause unpleasant symptoms of dyspepsia if given to excess in diabetes.—L. i./88,903.

Given internally to stop decomposition of urine in chronic cystitis.—B.M.J. i./88,1222; ii./89,1235; L. i./88,1195; Pr. xli.131.

Quite innocuous, even in large quantities, and for a long period.—L. ii./88,958; P.J. 1888,426; Y.B. 1890,311.

Salicin. See p. 29.

Salol. See p. 30.

SANGUINARIN.

Dose.—¼ to 1 grain, in a pill with glycerine of tragacanth.

The powdered resinoid of a coffee-brown colour obtained from blood-root—*Sanguinaria Canadensis.* In small doses, stimulant and tonic; in larger doses sedative, reducing the pulse, and increasing expectoration; in still larger doses, emetic.

Reference.

On dog, stimulates secretion of bile, which is more watery. Is a decided and powerful cholagogue, overdoses are emetic.—B.M.J. Rep. 1878,65; Pr. xxiii.411.

It is undoubtedly emmenagogue and useful in functional amenorrhœa, also useful in dyspepsia and gastro-intestinal catarrh.—B.

SANTONINUM.

Santonin (*Off.*).

Dose.—2 to 6 grains in sugar or milk.

A neutral crystalline principle obtained from Santonica or Cina, the flower-heads of *Artemisia maritima vars. α Stechmanniana* and *β pauciflora*. Santonin is insoluble in water, slightly soluble in alcohol and oils (1 in 100 of castor oil). Also soluble in caustic soda solution; exposed to light it turns yellow. Poisonous properties have been ascribed to it, probably due to impurities. It is a useful anthelmintic for round and thread worms. It colours the urine orange, and in too large a dose may cause objects to appear of a green or yellow colour, or as seen through a yellow medium, obliterating the whole of the violet and the ulterior end of the blue bands in the solar spectrum.—*Nature*, 1889, 408.

As an anthelmintic is most active administered in an oily solution.—L. i./83,971.

Haustus Santonini et Olei Ricini.

Santonin in powder ...	4 grains.
Castor Oil	3 drachms.
Mix and emulsify with	
Mucilage of Acacia ...	4 drachms.
Syrup	1 drachm.
Peppermint Water to ...	1½ ounces.

Taken fasting in the morning makes a dose for a child of 6 to 12 years.

Trochisci Santonini (*Off.*).

These lozenges contain 1 grain in each, with a plain sugar basis; one every night for a few nights should then be followed by an early morning aperient.

Suppositorium Santonini.

Santonin in powder, 3 grains, or more if ordered.
Oil of Theobroma ... *q.s.*

To make a suppository. Should be administered every 2nd or 3rd night, for 3 times. Is an efficient anthelmintic, especially for thread worms, which often infest the anus of children, causing them to have disturbed sleep.

References.

Inoperative against tape worm; 2 to 4 grains according to age, with one or more teaspoonfuls of castor oil early in the morning, repeated two or three mornings, seldom fails for thread worms.—R.

Peculiar effects on the eyes and sight; does good in iritis, 30 grains distributed into 10 doses, in 5 days.—M.T.G. ii./60,219.

Convulsions in a child from 1½ grains.—L. ii./76,443.

Rash after 5 grains in an adult.—B.M.J. ii./88,817.

Poisonous symptoms from its depressing effects on the nervous system.—B.M.J. i./79,322.

For amenorrhœa, dependent on anæmia or chlorosis, 10-grain doses were effectual.—L. ii./85,431.

Valuable in the amenorrhœa of full-blooded women, not in that of anæmic ones.—L. i./86,61,132,286.

Atropinæ Santonas.—See p. 66.

Sodii Santonas, Santonate of Sodium.

Dose.—5 to 10 grains.

In large colourless rhomboidal crystals, obtained by combination of Santonin with Caustic Soda, soluble 1 in 100 of water, freely soluble in hot glycerine, but separates on cooling; slightly soluble in syrup, has a mawkish, not disagreeable taste; may be administered in aqueous solution flavoured with syrup of orange, or in warm milk.

Santoninoxim.

A derivative of santonin produced by the action of hydroxylamine in an alkaline solution. Is less absorbable, and non-toxic, but equally active when administered in double or triple doses.—P.J. 1889,1049; *ex* Rep. de Pharm. June,1889,257.

SODIUM.

By experiments on the ventricle of the frog's heart it has been proved that, whilst Potassium Salts are very poisonous, Sodium Salts can scarcely be made to kill. By Potassium Salts excitability and contractility are both powerfully affected; by Ammonium Salts excitability practically unaffected, contractility powerfully affected; a wide gap separates Sodium Salts from the last, by these excitability is slightly affected, but contractility suffers chiefly; Potassium Salts, by these experiments, are 14 or 15 times as poisonous as Sodium Salts. The therapeutic importance of these results is obvious. Bromide, iodide, and chlorate of potassium are largely given as medicines; the above would suggest the use of the Sodium Salts in preference. Clinical evidence tends to prove the same by their action on the entire organism, as may be judged by the favour shown of late to the latter salts, especially to Bromide of Sodium.—L. i./82,1033; L. ii./82,736; B.M.J. i./82,942; Pr. xxvii.7.

Sodii Arsenias.—See p. 64.

Sodii Benzoas.—See Acidum Benzoicum, p. 2

Sodii Bromidum (*Off.*).

Dose.—10 to 30 grains or more.

A slightly deliquescent granular white powder, tasting like common salt; soluble 8 in 9 of water. The anhydrous salt only should be used medicinally, it can be crystallized containing 26 per cent. of water. If therapeutically as active as bromide of potassium, Bromide of Sodium is preferable, from its weaker action on the heart.—Pr. xxviii.7; L. ii./82,736; Pr. xxxi. 224, *ex* Boston Med. and Surg. Journ. cviii. 438.

Use in epilepsy with cardiac complications.—Pr. xxii.81.

A mixture of Bromides in the proportion of bromide of potassium 2, bromide of sodium 2, and bromide of ammonium 1, is said to have a better action than either salt alone.—Erlenmeyer in Brunton.

Elepizone.—A nostrum sold under this name contains approximately bromide of sodium 30 grains, bromide of ammonium 30 grains, bromide of potassium 20 grains, tincture of nux vomica 15 minims, with caramel *q.s.* to 1 ounce of wintergreen water. *Dose.*—1 drachm 4 times a day.

Sodii Chloras. *Dose.*—10 to 30 grains.

In large regular modified tetrahedric crystals, colourless, and has a mawkish, not disagreeable, saline taste. soluble 1 in less than 2 parts of water, and 1 in 34 of rectified spirit. It fuses and deflagrates when exposed to a red heat. For many purposes for which chlorate of potassium is used, this salt is to be preferred. For stomatitis, with ulceration along the edges of the gums, the evidence in its favour is every bit as unequivocal as it s for potassium chlorate.—L. ii./82,736.

Case of poisoning by chlorate of potassium taken instead of the alkali of a seidlitz powder.—L. ii./81,193; B.M.J. ii./81,23.

Gargarisma Chlori, Chlorine Gargle.

Chlorate of Sodium in powder ...	10 grains.
Hydrochloric Acid	30 minims.

Mix in a pint bottle, and let the gas generate and replace the air in the bottle, then cork the bottle, and let it stand for two minutes; lastly add gradually, shaking after each addition,

Distilled Water to...	1 pint.

Useful as a detergent, and to remove follicular patches. 2 or 3 ounces in a quart jug may be used as an inhalation (cold). Chlorate of potassium may be used in place of the sodium salt, but the latter is less nauseous.

Trochisci Sodii Chloratis (3 grains in each).

Are prepared in two forms, with black currant paste, and with plain sugar. They are much more palatable than chlorate of potassium lozenges, and are quite as beneficial as these in affections of the mouth and throat. —L. ii./82,737.

Sodii Citras. *Dose.*—10 to 60 grains.

Is in small granular crystals, resembling common salt; it is given as a cooling saline, in preference to citrate of potassium.

Sodii Ethylas, Ethylate of Sodium.

A deliquescent caustic salt in white or whitish light pulverulent crystals, prepared by dissolving metallic sodium in Ethylic Alcohol, and concentrating to crystallize.

Liquor Sodii Ethylatis (*Off.*).

Is prepared by dissolving sodium 1 in ethylic alcohol 20, keeping the latter cool by a stream of cold water; has Sp. Gr. 0·867. It may be more conveniently made by mixing and keeping cool while dissolving—

Ethylate of Sodium	1 part, in
Ethylic Alcohol	8 fluid parts.

The solution is syrupy, colourless, but darkens to a brown colour, and is recommended as the most manageable and effective of all caustics. It is used to destroy nævi and other vascular growths. It should be lightly, but effectually applied to the part by means of a pointed glass rod for 2 or 3 successive days, when a scale or scab will form, which should be left until it is loose, and the treatment continued again. It is said to cause little or no pain. No water should be allowed to touch the part under treatment. —M.T.G. ii./70,472 ; L. ii./78,625,654 ; L. i./81,168,242 ; P.J. 1878,479,480,485.

Lupus, several cases completely cured by it.—Pr. xxxiv.370 ; xli.450 ; B.M.J. ii./88,762 ; Th. Gaz. Dec. 1888,845.

Successful use in hypertrichosis, also in removing moles. Pr. xliii.1,81 ; Th. Gaz. Sept. 1889,648.

Pasta Londinensis, London Paste, T.H.

Caustic Soda and Unslaked Lime of each equal parts, rubbed together in a warm mortar—made into paste when required for use as a caustic. It is said to be less painful than **Vienna Paste,** which is Caustic Potash 5, Slaked Lime 6, made into a Paste with spirit.

Sodii Fluo-silicas. Sold as a special preparation under the name of **Salufer.**

A solution has been recommended as a disinfectant, being colourless, non-poisonous, and odourless ; also as an antiseptic non-irritating surgical dressing. It is soluble about 1 in 160 of water. It prevents decomposition of animal and vegetable matters, and has been used to preserve food. Suggested as a lotion for use after parturition.—B.M.J. ii./87,1379.

Report upon its antiseptic value ; 1 grain in 1 ounce of water is strong enough for a lotion ; it is unirritating, and may be used to wash out cavities.—B.M.J. i./88,1054.

Arrests alcoholic fermentation for a time ; internally is not free from poisonous action.—B.M.J. i./90,355.

Sodii Hippuras.—See p. 3.

Sodium Hypobromite, Solution of.

Caustic Soda	100 grammes.
Distilled Water	250 c.c.

Dissolve, cool, and keep iced while adding *guttatim.*

Bromine	25 c.c.

Mix and dissolve. This solution is used to estimate the amount of urea in a given quantity of urine. On adding the solution, nitrogen is evolved from the urea, and is measured in a suitable apparatus, in which each graduation represents 1 per cent. of urea in the urine.—Jour. Chem. Soc. 1874, 749; L.H. 228; L. ii./74,695; L. i./77,559.

It is better to keep the bromine separate, it is therefore supplied in tubes containing 1 and 4 c.c. respectively; 1 c.c. of bromine should be added to 11 c.c. of the solution as required.

Sodii Hypophosphis.—See p. 301.

Sodii Hyposulphis.—*Syn.*—**Sodii Thiosulphas.** —See **Acidum Sulphurosum**, p. 35.

Sodii Iodidum (*Off.*). *Dose.*—3 to 20 grains.

A very deliquescent white powder; may be made by decomposing a solution of iodide of iron with carbonate of sodium, filtering and evaporating the filtrate to dryness. Soluble 3 in 2 of water.

Sodii Nitris.

Dose.—2 to 5 increased to 10 grains.—**Compressed Tablets**, weighing 2½ grains each, are prepared.

A white, deliquescent, granular crystalline powder, with a cooling saline taste, soluble 1 in 1 of water; useful in angina pectoris and in epileptiform convulsions. In these has an action similar to nitrite of amyl.—Pr. xxviii.420; Pr. xxx.179,321.

17 cases of epilepsy, in 9 the drug succeeded in controlling the fits, 12 grains the most suitable dose.—L. ii./82,941; B.M.J. ii./82,1095.

In epilepsy, scruple doses, with the same of bromide of potassium, after 8 weeks patient thought himself better. In another case, scruple doses given alone, it failed.—Pr. xxx.105. (? Impure salt used.)

Its effects in cases of angina pectoris, in dose of 5 to 10 grains, compared with nitrite of amyl and nitroglycerine are said to be more lasting.—Pr. xxx.179,321; L. i./90,240.

To healthy adults doses of 10 and 5 grains are unbearable, and many cannot bear even 3-grain doses.—L. ii./83,766.

In dyspnœa of bronchitis and asthma is preferred to nitrite of amyl or of ethyl, on account of its being more stable.—Intern. Jour. Med. Sci. Oct. 1887,393, Feb. 1888,122.

The best remedy for asthma, dose 3 to 5 grains, frequently repeated; specially useful combined with hyoscyamus.—L. i./90,240.

Sodii Permanganas.—See p. 322.

Sodii Phosphas (*Off.*).

Syn.—HYDRIC-DI-SODIC PHOSPHATE; TASTELESS PURGING SALT; PHOSPHATE OF SODIUM.

Dose.—20 grains to 1 ounce, may be given in broth or soup.

Soluble 1 in 5 of water, is very efflorescent, loses 63 per cent. of its weight when heated to dull redness.

Sodii Phosphas Effervescens.

Dose.—1 to 3 drachms.

This forms a convenient and pleasant mode of taking this useful purgative.

Sodii Phosphas Exsiccata.

Dose.—10 grains to 4 drachms in some warm liquid.

Phosphate of sodium is mildly aperient, well suited for a delicate stomach; in small doses it is antacid and diuretic, useful in bilious sick-headache and jaundice.

It acts as a powerful hepatic stimulant and a moderately powerful intestinal stimulant, on the dog.—B.M.J. i./79,177.

For hepatic calculi, 60 grains 3 times a day, recommended with $\frac{1}{20}$ grain arseniate of sodium added, if any evidences of gastric intestinal catarrh are present.—B.

Sodii Salicylas.—See Acidum Salicylicum, p. 28.

Sodii Santonas.—See Santoninum, p. 343.

Sodium Silicate, Solution of.

Syn.—SOLUBLE GLASS, Water Glass.

A viscid solution, of the consistence of treacle, usually containing 10 per cent. of caustic soda and 20 per cent. of silica. Silicate of Sodium solution has a remarkable power in arresting the putrefaction of organic matter. Diluted solutions have been employed as injections in leucorrhœa, gonorrhœa, uterine ulceration, into the bladder in cystitis, and the nostrils for ozæna. The corresponding potash preparation has been similarly used, also in erysipelas diluted with from 4 to 11 parts of water. The latter, care being taken that it was neutral, has been employed to paint over the affected part with success.—Pr. xv.293.

Potassium Silicate, Solution of.

Syn.—SOLUBLE GLASS, Water Glass.

Is less viscid than the last. Both preparations have been employed to impregnate bandages for treating fractures and other surgical cases, in place of starch; but the potassium solution, if nearly neutral, is preferred.

Sodii Sulphas Exsiccata.

Dose.—½ to 2 drachms.

On drying sulphate of sodium (Glauber's salt) it loses about one-half its weight (the water of crystallization), leaving the anhydrous salt—a preparation which is much more convenient for use in dispensing, especially in powders. The Epsom salt, although a more active aperient than Glauber's salt, does not stimulate the liver like the latter, and is not nearly so agreeable to take. In weak solution these salines act much more efficiently.—P. xvii. 241.

Sulphate of sodium exhibits no poisonous action when injected into the circulation, but sulphate of magnesium when so injected acts as a powerful toxic agent, paralysing first the respiration and afterwards the heart. Neither purge when injected into the blood or subcutaneously.—B.M.J. i./85,1161.

Glauber's salt is most pleasant to take, in the form of

Sodii Sulphas Effervescens, Granular Effervescent Sulphate of Sodium.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast; it produces as a rule *one* efficient evacuation.

An agreeable and palatable aperient introduced by the writer, stimulating both the liver and bowel without causing depression. Its action resembles that of Carlsbad Water. It is suitable for travellers, being portable, and stable in composition.—L. ii./79,879; B.M.J. i./80, 21.

Sodio-Magnesii Sulphas Effervescens, Granular Effervescent Sodio-Magnesian Aperient.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast.

An agreeable and efficient aperient introduced by the writer. The Sulphates of Sodium and Magnesium combined resemble Hunyadi Janos and Pullna waters; also Friedrichshall, if a little common salt be added to each dose. This preparation is palatable, stable in composition, and convenient to use when travelling.

⁂ The activity and palatability of the two last preparations may be increased, especially in winter, if taken in warm water. The combination of the two salts makes a more active purgative, but the effervescent sulphate of sodium alone is more pleasant to take.

Sal Carolinum Factitium, P.G., Artificial Carlsbad Salt.

Dose.—20 to 60 grains, in a tumbler of warm water. Dried Sulphate of Sodium, 44; Sulphate of Potassium 2; Chloride of Sodium, 18; Bicarbonate of Sodium 36; all in fine powder. Mix. 53 grains to 1 pint of water is similar to Carlsbad Water.

Pulvis Seidlitz, Seidlitz Powders, have

Tartarated Soda (Rochelle Salt)	120 grains
Bicarbonate of Sodium	40 grains

In the blue paper.

Tartaric Acid	36 grains

In the white paper.

Sodii Sulphis.—See **Acidum Sulphurosum**, p. 35.

Sodii Sulphocarbolas.—See **Acidum Carbolicum**, p. 14.

Sodii Sulpho-Ichthyolas.—See p. 218.

Sodii Sulpho-vinas, Sulphovinate of Sodium.

Syn.—SULPHETHYLATE OR ETHYLSULPHATE OF SODIUM.

Dose.—¼ to 1 ounce is a tasteless aperient, and does not cause colic. The salt is in efflorescent colourless crystals.

Sodii Taurocholas, Taurocholate of Sodium.

Dose.—2 to 6 grains, in pill, which should be keratin-coated to prevent solution until it reaches the bowels. A white or whitish amorphous powder, prepared from pig's bile. Should be free from glycocholate of sodium, with which it is naturally associated. It has been recommended for gouty obesity and dyspepsia.—L. i., 85, 745,917.

SPARTEINÆ SULPHAS.

Sulphate of Sparteine.

Dose.—¼ to 1 grain, increased.

The sulphate of an alkaloid obtained from the leaves and branches of broom, *Cytisus Scoparius.* Is in colourless rhombohedral crystals, soluble 3 in 2 of water. The pure alkaloid is a syrupy liquid.

Hypodermic Lamels of Sparteine contain 1 grain combined with gelatine.

Pills of Sparteine contain ¼ grain each.

Has a tonic action on the heart, restoring its rhythm and accelerating its beats when in a weak atonic state. B; L.i./87,391.; Th. Gaz. Dec. 1887,837; B.M.J. i./86,282; L. ii./87,319. Is not cumulative, a valuable diuretic, should be tried when digitalis fails, relieves stenocardiac attacks.—B.M.J. i./88,363. Intern. Jour. Med. Sci. Oct. 1887,363.

Useful in infantile diphtheria, $\frac{1}{10}$ grain 4 times daily, with or without digitalis.—B M. J. ii./88,649.

Pulse is slowed and increased, and activity of heart reduced. Should be used where digitalis is contra-indicated. Suggested use in angina.—Th. Gaz. May 1889,346.

Prompt in action, but inferior to digitalis in power; useful in uncompensated heart disease.—Pr. xliv.60.

SPHAGNUM.

Turf-Moss, Bog-Moss, *Sphagnum, sp. var.*

This, when dried, on account of its elasticity and great capability of sucking up or imbibing liquids, forms a useful dressing for absorbing the discharge from open wounds, and especially urinary discharge in bladder, kidney, and dropsical affections. It is antiputrescent, and may be made thoroughly antiseptic by being sprayed with sublimate solution before use. It is sold in compressed sheets, like cardboard, which absorb eight times their weight of water, and when disintegrated, may be formed into pillows or pads by enclosure in muslin bags. —P.J. 1884,591; B.M.J. ii./87,829.

Staphisagriæ Semina (*Off.*). See .p 161.

STILLINGIA, U.S.

The root of *Stillingia sylvatica*, queen's root, queen's delight, is used medicinally in America. Contains an alkaloid Stillingine (not to be confounded with Stillingin, *see* below). In large doses it is emetic and cathartic, in small doses alterative, used for scrofula, syphilis, jaundice, dropsy depending on liver disease, and for piles.

Extractum Stillingiæ Fluidum, U.S.
Dose.—15 to 60 minims, one part = 1 of root.

Liquor Stillingiæ Compositus, McDade's Succus Alterans.

A remedy for syphilis, consists of fld. ext. Smilax Sarsaparilla, fld. ext. Stillingia, fld. ext. Lappa Minor (burdock), fld. ext. Phytolacca, of each 2 oz., tincture of Xanthoxylum Carolinianum (prickly ash), 1 oz.; a teaspoonful increased to a tablespoonful three times a day before meals.—B.M.J. i./83,449; B.M.J. ii./87,655.

Stillingin. The chocolate brown powdered extractive.
Dose.—1 to 3 grains in a pill.

STROPHANTHUS.

Strophanthus hispidus (*S. Kombé*, Oliver).

The seeds of an apocynaceous plant, from which is prepared the Kombé arrow poison, used in various parts of Africa, in the Manganja country near the Zambesi, in Guinea, in Senegambia, and in the Gaboon district, where it is called Inée, Onaye, or Onage. They are often imported in scimitar-shaped pods, containing numerous seeds, each of which has a compressed comose appendage attached to the apex, resembling that of taraxacum, but much longer. For the sake of uniformity, the seeds alone should be used for making the galenical preparations, but all parts of the fruit are poisonous. The seeds of one variety, imported from the Niger, and said to be from *S. hispidus*, are brown, with a pointed apex, and short velvety hairs, and are smaller than those from the Nyanza district, supposed to be from *S. Kombé*. These are large seeds, of a bluish- or brownish-green colour, have a blunt apex, and are covered with white silky hairs. Two crystalline principles have been isolated from the seed, Strophanthin and Inein. **Strophanthin** is a white micro-crystalline glucoside, freely soluble in water, allied in its physiological and therapeutical action to digitalin. Injected under the skin of a frog, it stops the action of the heart, with the ventricle pale and contracted, whilst the auricles are dark and distended; it seems to act directly on the cardiac muscular fibre. It is a cardiac tonic and diuretic. *Dose, hypodermically.*—$\frac{1}{120}$ to $\frac{1}{60}$ grain.—P.J. 1873,523; 1877,526; B.M.J. ii./85,263,904; L. ii./85,309.

Strophanthin appears as yet not to be a well-defined chemical, or a safe therapeutic agent.—P.J. 1890,533.

By the action of weak acid solutions on Strophanthin Fraser has obtained another crystalline body—**Strophanthidin**—and glucose. See research on.—P.J. 1889, 328. **Ouabain,** a glucoside obtained from the wood of *Ouabaïo*, of the same order as strophanthus, has similar chemical and physiological properties to strophanthin, but is much more toxic in action.—P.J. 1888,162; L. ii./88, 392; B.M.J. ii./89,1185. Strophanthin and ouabaïn produce anæsthesia of cornea and conjunctiva.—B.M.J. i./89,1418; ii./89,1185. Use objectionable.—L.i./90,520.

Tinctura Strophanthi, B.P.C.

Strophanthus Seeds, reduced to No. 30 powder, and dried at 110° F., 1 ounce.

Pack in a percolator, and moisten with pure ether (Sp. Gr. 0·720). Macerate for 24 hours, then percolate, adding ether until the fluid passes through colourless. Remove the marc from the percolator, and dry it, gradually heating it to 120° F. Again reduce it to powder, repack in the percolator, and moisten with rectified spirit. Macerate for 48 hours, then percolate slowly with rectified spirit to produce 1 pint.

Dose.—2 to 10 minims.

In aqueous mixture, preparations of Strophanthus are said to rapidly undergo decomposition. The tincture should therefore be prescribed in combination with chloroform water or spirit.—P.J. 1886,411,503; B.M.J. i./87,151.

Pilula Strophanthi = 2 or 4 minims of Tincture, combined with sugar of milk. *Dose.*—1 to 3.

Tabellæ Strophanthi, each equal to 2 minims of Tincture, combined with chocolate. *Dose.*—1 to 5.

This drug is a powerful heart tonic and diuretic, replacing digitalis in many cases, and its effects are found to be non-cumulative.

Essays on the chemistry and uses, by Fraser.—B.M.J. ii./87,171. Essay and discussion.—B.M.J.ii./85,904; i./89,1369.

A valuable cardiac tonic, succeeding after digitalis has failed.—L. ii./87,513.

Uncertain in action, and inferior to digitalis.—B.M.J. ii./87,1100,1184; L. ii./87,319; L. i./89,739.

Effects are not cumulative, is a valuable diuretic, and can replace digitalis.—L. i./87,644,964.

One of the most powerful cardiac tonics we possess.—L. ii./87,202; Pr. xl./59.

Is of special value in the cardiac failure of prolonged typhoid fever.—L. ii./87,201,319,605.

Produces intermittence of pulse in some cases; this, however, passes off with *increase* of dose.—B.M.J. i./88, 132.

Beneficial in heart weakness and failure of a functional nature.—B.M.J. i./88,901; L. ii./88,807.

Acts more promptly than digitalis, but disturbs alimentary canal, and produces local irritation when injected.—B.M.J. i/89,603.

Successful use in tetanus; 2 minims of tincture every 3 hours.—L. ii./88,111.

Of benefit in exophthalmic goître. Two minims of tincture, increased to 10, every 6 hours.—Pr. xlii./51, 206.

Especially valuable in stenosis, but unsuitable in aortic disease; pulse improves in force and rhythm. Contra-indicated in angina pectoris.—L. ii./88,1047; i./89,199,304; P.J. 1888,606.

Successful in angina pectoris; strophanthin unreliable. —L. i./89,199,304.

A good medicament of the second order, far superior to adonis, caffeine, and sparteine.—L. i./89,252.

STRYCHNINA (*Off.*).

Strychnine.

Dose.—$\frac{1}{30}$ or less to $\frac{1}{12}$ grain, in solution or in pill, triturated with sugar of milk and glycerine of tragacanth *q.s.*

The alkaloid obtained from Nux Vomica, St. Ignatius' beans (see p. 271), and the seeds of other species of *Strychnos.* In right square octahedrons or prisms, colourless and inodorous. Amorphous Strychnine should not be used, as it is more liable to contain, as an impurity, Brucine (also contained in *Nux Vomica*). Pure Strychnine should not be coloured by strong nitric acid, indicating an absence of Brucine. It is very slightly soluble in water, about 1 in 6,000, about 1 in 400 of proof spirit, soluble also in chloroform, but insoluble in absolute alcohol and ether. Its salts are more soluble, and acids render the alkaloid more soluble in water. It is very poisonous; it affects the spinal cord by producing convulsions resembling those of tetanus. Its properties are so well known as not to need further description here.

It is antagonistic to calabar bean and its preparations, yet not in the sense that the administration of the one can save life after the administration of a fatal dose of the other, as chloral may in Strychnine poisoning.—B.M.J. ii./74,805.

In addition to the **Liquor Strychninæ Hydrochloratis** *(Off.)* containing about 1 per cent. of strychnine, (or $4\frac{1}{2}$ grains in water 6 drachms, rectified spirit 2 drachms, and diluted hydrochloric acid 7 minims)—*dose*, 5 to 10 minims—the following salts and non-official preparations are in use :—

Ferri et Strychninæ Citras.

Dose.—3 to 8 grains in aqueous solution.

In scales of a greenish golden colour resembling citrate of iron and quinine, freely soluble in cold water. It contains 1 per cent. of Strychnine. Some makers of this preparation send it out dark brown in colour, resembling citrate of iron and ammonia; it then contains only the Ferric Citrate with Ammonia, and with this preparation it is difficult to distribute the Strychnine uniformly, as it is apt to crystallize out of the concentrated liquor before "scaling."

Ferri, Quininæ et Strychninæ Citras.

Dose.—3 to 10 grains.

This is in scales of a greyish-golden colour like the former preparation, but in addition to 1 per cent. of Strychnine it contains 16 per cent. of Quinine.

Strychninæ Acetas. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In small colourless acicular crystals, soluble 1 in 80 of water.

Strychninæ Arsenias, Arseniate of Strychnine. *Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain.

In small white acicular crystals, soluble about 1 in 30 of water.

Successful in phthisis by hypodermic injection of $\frac{1}{2}$ per cent. mixture with liquid vaseline. *Dose.*—4 to 15 minims daily.—L. i./89,596.

Strychninæ Hydrobromas, Hydrobromate of Strychnine. *Dose.*—$\frac{1}{30}$ to $\frac{1}{12}$ grain.

In minute white crystals, soluble about 1 in 60 of water.

Strychninæ Nitras. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In hard colourless needles, soluble 1 in 70 of water.

Injectio Strychninæ Nitratis Hypodermica.

Nitrate of Strychnine ...	2 grains.
Glycerine	50 minims.
Distilled Water	50 minims.

Heat gently till dissolved.

Dose.—1 to 4 minims.

In nocturnal incontinence of urine used with good results.—Pr. xxxiii.376.

In amaurosis used with powerful curative effects.—M.T.G. i./71,76,431.

In gastralgia, no such remedy as this, also recommended to relieve pain of cardialgia and gastrodynia.—Anstie in R.

Strychninæ Sulphas. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

The neutral salt is in prismatic crystals, soluble about 1 in 80 of water.

Strychninæ Sulphas Acida.

Dose.—$\frac{1}{20}$ to $\frac{1}{10}$ grain.

In white silky acicular crystals with a slightly acid reaction, soluble 1 in 36 of water. This salt is best adapted for hypodermic injection.

Injectio Strychninæ Sulphatis Hypodermica.

Acid Sulphate of Strychnine	1 grain.
Distilled Water	40 minims.

Dose.—1 to 3 minims.

Hypodermic Lamels of Strychnine contain $\frac{1}{60}$ grain.

Bromide of Potassium 15 to 20 grains an antidote to Strychnine poisoning (Pr. xxiv.210). The dose of bromide should be at least 4 drachms and repeated in 2-

drachm doses every quarter of an hour.—Murrell on Poisons.

Poisoning by three quarters of a grain successfully treated by one drachm of hydrate of chloral with half an ounce of bromide of potassium and an ounce afterwards given in divided doses.—L. i./81,52; ii./89,166.

Stimulates the respiratory centres and is useful in embarrassed breathing.—Trans. Med. Congress, 1881, i.453. Dyspnœa of anæsthesia.—Pr. xli.,401.

Paraldehyde is antagonistic to Strychnine.—M.P.C. i./84,232.

Drink-craving in cases of alcoholism is relieved by strychnine, either by mouth or hypodermically.—B.M.J. i./86,835; i./88,90; L. i./88,642.

Produces healthy sleep in cases of insomnia from worry.—Pr. xl. 28.

Is of immense value in obviating and controlling post partum hæmorrhage.—B.M.J. ii /85,913,1059; i./86, 175.

Combined with acetic acid has even more power over the uterus.—B.M.J. i./88,743.

Hypodermically useful in narcotic poisoning.—Pr. xli.401.

Poisoning by 2 to 3 grains.—L. ii./89,951.

SULPHONAL.

Dose.—15 to 30 grains. In cachets or suspended in water with mucilage. Should be finely powdered, and followed by a draught of hot fluid. Unless in solution, a dose should be given at least an hour before sleep is desired.

Syn.—Diethyl-sulphon-dimethyl-methane. Produced by oxidation of a mixture of ethyl-mercaptan and acetone. Is in white tabular crystals, tasteless and odourless, soluble 1 in 500 of water, freely soluble in alcohol and ether. Melts at 125·5° C.

Sulphonal is completely changed during passage through the body; the substance formed is stable, not increasing elimination of sulphuric acid; does not affect the metabolism of nitrogenous tissues, nor disturb stomach or bowels.—Pr. xlii./16.

Is a soporific, does not affect digestion, pulse, or temperature; efficacious in sleeplessness of nervous subjects

—B.M.J. i./88,864,1113; ii./88,31,1278; ii./89,838; Pr. xlii./11,54,131; Th. Gaz. June 1888,376; Nov. 759; Dec. 830; Jan. 1889,25,36; April 247; May 323; Sept. 591; Med. Chron. Nov. 1888,146; C. & D. ii./88,161; a safe hypnotic.—B.M.J. ii./89,1333.

Is slow in action on account of slight solubility; 30 grains may be given in solution in 1 ounce of brandy with 2 ounces of boiling water added (=about 140° F.). Is useful in all cases except mania.—M.P.C. i./89,532.

Certain and rapid effect in insomnia with nervous irritability, 12 cases; less marked in 7 neuralgic cases; failure in cardiac asthma and epilepsy. Bad effects in three cases.—Pr. xlii./370.

Night-sweats of phthisis reduced, and sleep increased by 8-grain doses. Contra-indicated in angina.—C.&D. ii./88,99.

Unsuccessful in cases of melancholia and epileptic insanity; produced anorexia, headache, and emesis; is accumulative in action; increases arterial tension, and depresses respiration.—Th. Gaz. April 1889,247.

Studies on its action; sleep produced natural and undisturbed by dreams; useless in mania or delirium tremens.—B.M.J. i./89,952.

Good results in simple insomnia, cancer of rectum, and cerebral meningitis.—B.M.J. i./89,1113.

A successful hypnotic, also as a sedative in acute maniacal or hysterical delirium and epileptiform convulsions. Less effect in chronic forms of insanity.—B.M.J. i./89,1246; Th. Gaz. July 1889,485.

Prevents night-sweats in doses of 4 to 7 grains, effects somewhat permanent.—L. i./89,854; Th. Gaz. June 1889,402.—Y.B. 1890,38.

Thirty grammes (463 grains) taken, caused 114 hours sleep, with one short interval; no bad effects.—L. i./89.915; P.J. 1889,861.

Successful use in insomnia associated with cardiac or Bright's disease, and where opium is contra-indicated.—L. i./89,1003.

Successful in mania; large doses added to tea and coffee kept a violent lunatic tranquil. Also good results in insomnia of locomotor ataxy. Fifteen grains, with 8 grains of antipyrin, generally ensures a quiet night in fibrous rheumatism.—B.M.J. ii./89,817.

Sulphonal valuable in cases of insanity; also in typhus, patients benefited by the sleep, and suffered not from the remedy.—L. ii./89,1051,3.

Tetronal. *Syn.*—Diethyl-sulphon-diethyl-methane.

Dose.—10 to 20 grains. Best administered in cachets, followed by a draught of hot liquid.

In shining white crystalline tablets, or acicular crystals, melting at 185° F., odourless, with a camphoraceous bitter taste. Soluble 1 in 450 of water, 1 in 15 of spirit.

Tetronal is allied to sulphonal, containing four ethyl groups in a molecule, two of which replace the two methyl groups in sulphonal, and it is stated that this doubles the hypnotic effect. If only one methyl group in sulphonal be replaced by ethyl, **Trional** is formed, which has a hypnotic action intermediate between those of sulphonal and tetronal.—P.J. 1889,161; B.M.J. i./90,87.

SULPHUR.

Dose.—20 to 60 grains in milk, treacle, with confection of senna, or as Pulvis Glycyrrhizæ Compositus (p. 197).

This is official as **Precipitated Sulphur** and **Sublimed Sulphur.** From the latter is prepared Confectio Sulphuris: Sulphur 4, Acid Tartrate of Potassium 1, Syrup of Orange-peel 4, Tragacanth $\frac{1}{24}$—*dose*, 1 or 2 drachms; and Unguentum Sulphuris: 1 to 4 of Benzoated Lard; it is also used for making the two following ointments, but **Precipitated Sulphur** in all these preparations, for use either internally or externally, being free from grittiness, is much to be preferred; it is in fine powder if genuine, sublimes without residue, and has not the glistening appearance of the old lac sulphuris (due to the presence of sulphate of calcium).

Trochisci Sulphuris Compositi (Garrod).

Contain Precipitated Sulphur 5 grains, Acid Tartrate of Potassium 1 grain, with Tincture of Orange Peel *q.s.* *Dose.*—1, 2, or more.

Continued use beneficial in some chronic diseases of alimentary canal and liver, also of skin and articulations. —Pr. xliii.218; L. i./89,665; Th. Gaz. June 1889,408.

Where sugar is to be avoided, may be given as

Pastillus Sulphuris Compositus. See p. 196.

Unguentum Sulphuris c. Hydrargyro, U.C.H.

Sublimed Sulphur	30 grains.
Ammoniated Mercury ...	5 grains.
Olive oil	8 minims.
Lard	8 drachms.

To this may be added, to disguise its colour or odour, or increase its activity, either 2 grains of vermilion, 10 minims of eucalyptus oil, 10 grains of carbolic acid, or 5 minims of creasote. Useful in scabies and allied skin diseases of doubtful diagnosis.

Unguentum Sulphuris Hypochloritis.

Sublimed Sulphur	1 drachm.
Essential Oil of Almonds ...	10 minims.
Prepared Lard	7 drachms.

Mix, and add with quick manipulation

Chloride of Sulphur (Liquid)	8 minims.

Keep in a stoppered bottle; is sometimes made double this strength, *i.e.*, with half the quantity of basis. Useful in acne, psoriasis, and scabies.

Unguentum Sulphuris Iodidi (*Off.*). Has 30 grains to hard paraffin ¼ ounce and soft paraffin ¾ ounce: it mixes more readily if the iodide be first triturated with a little spirit; is useful for acne.

Sulphuretted Hydrogen treatment of Phthisis.

Bergeon and Cornil have introduced this plan of injecting into the rectum carbonic acid gas which has been passed through sulphuretted water; it is readily absorbed, and is exhaled by the pulmonary and bronchial surfaces, and there comes into contact with the organisms of phthisis. It is claimed that the direct effects are, lessened cough, improved sputa, cessation of sweating, increased dryness of rales, and general improvement of condition.—Y.B.1886,30; 1888,29; Th.Gaz.1887,217, 723; L.i./87,761; ii./87,11,228,605; B.M.J.ii./80, 1049; i./87,93,883; ii./87,843; Birm. Med. Rev. 1888, May, 212.

TABLETS, COMPRESSED,

Are prepared of a lenticular shape as follows:—

Ammonium Bromide	5 grs. in each.
Ammonium Chloride	3 ,, ,,

Ammonium Chloride	2½	grs. in each.
Borax	2½	
Antipyrin	5	,, ,,
Cascara Extract	2	,, ,,
Lithium Citrate	5	,, ,,
Peptonic (pepsin and pancreatin)		
Potassium Bicarbonate	5	,, ,,
Potassium Bromide	5	,, ,,
Potassium Bromide	10	,, ,,
Potassium Chlorate	5	,, ,,
Potassium Chlorate (effervescing)	3	,, ,,
Potassium Chlorate	3½	,, ,,
Ammonium Chloride	1½	
Potassium Chlorate	2½	,, ,,
Borax	2½	
Potassium Iodide	5	,, ,,
Saccharin	½	,, ,,
Sodium Bicarbonate	5	,, ,,
Sodium Bromide	5	,, ,,
Sodium Nitrite	2½	,, ,,
Zymine.		
Zymine	2	
Bismuth Subnitrate	3	
Ipecacuanha	1/10	

Soda-Mint, or Neutralising Tablets.

Sodium Bicarbonate	4	,, ,,
Ammonium Carbonate	¼	
Oil of Peppermint	⅛	

Voice Tablets.

Potassium Chlorate	
Borax	
Cocaine	

TEREBENA PURA.

Pure Terebene.

Dose.—5 to 30 minims.

An isomer of oil of turpentine produced by the action of sulphuric acid (oil of vitriol) on the latter, and distillation. Chemically, it is not a simple body, but consists of camphene, cymene, borneol, and terpilene; the last substance possesses the most active, or rather toxic, properties. Is colourless, and has a very agreeable odour resembling fresh-sawn pine wood. It is not miscible with water, but may be emulsified by mixing it with one-sixth its weight of tragacanth powder, then adding water and shaking well. It is a powerful yet agreeable antiseptic, disinfectant, and deodoriser.

Capsules of Terebene contain 5 minims each.

Vapor Terebenæ, T.H.

Terebene, pure		40 minims.
Light Carbonate of Magnesium		20 grains.
Distilled water ...	to	1 ounce.

A teaspoonful in a pint of water at 140° for a stimulant inhalation. For medicating the antiseptic respirators, 10 drops of a mixture of equal parts, Terebene, carbolic acid, and spirit of chloroform, is often used.

A dark-coloured liquid, with an odour resembling but not so agreeable as the above, is sold as a disinfectant, under the name of Terebene, and must be distinguished from the pure chemical bearing this name as above described; it is a useful deodoriser, but, being insoluble in water, does not permeate decomposing substances.

The vapour of Terebene is a useful sedative and antiseptic inhalation in phthisis, and, administered internally at the same time in 5-minim doses, it destroys the virus of swallowed sputa, and lessens the risk of intestinal infection; useful also in dysentery.—B.M.J. ii./81,666.

Recommended for medicating the cotton wool of respirator for dry antiseptic inhalation in phthisis.—B.M.J. ii./82,7; Pr. xxix.94.

May produce renal irritation.—B.M.J.ii./86,195.

Drowsiness and giddiness may be produced.—B.M.J. ii./86,16.

For winter cough, drops taken on sugar, and inhaled.—B.M.J.ii./85,1103,1184.

Report of an Investigation Committee.—B.M.J. i./87,795.

Terpin-Hydrate. *Syn.*—TERPENE HYDRATE; **Hydrate of Oil of Turpentine.**

Dose.—2 to 6 grains or more.

A derivative of oil of turpentine in prismatic crystals, resembling those of hydrate of chloral, soluble in water about 1 in 200, more so if heated, soluble 1 in 20 of alcohol, and about 1 in 6 in oils. Has the odour of terebene, and has been used with success in bronchitis, chronic and subacute; it assists expectoration in catarrhal affections.—M.T.G.ii./84,768; L. ii./85,404. Is also a diuretic.—L.i./88,464.

Small doses loosen phlegm, large ones check expectoration and hæmoptysis: give it before meals.—B.M.J. i./86,85,221,418.

Terpinol, an agreeable aromatic liquid, is obtained by the action of dilute hydrochloric or sulphuric acid on terpene.

Summary of results, if it disorder the stomach, give it during meals.—Th.Gaz.Dec.1887,829.

TEREBINTHINA CHIA.

Chian Turpentine, P.L.

Dose.—5 to 10 grains.

An oleo-resin flowing from the incised trunk of *Pistacia Terebinthus;* obtained from Chio. The use of this drug, which had fallen into desuetude, was, in 1880, revived as a remedy for cancer of the female generative organs. In commerce it is often factitious. The genuine drug has a very firm honey-like consistence, yet is slightly brittle, and becomes more so with age and exposure to the air. It is translucent, small pieces appear yellow or brownish-yellow, but in mass it has a greenish-brown colour. It has, when fresh, a distinctive odour, slightly like the pinaceous turpentines, but much more agreeable and aromatic, resembling citron and jasmine, or, according to Pereira and Guibourt, more like fennel; but there is always a background smell like that of mastiche, which becomes more developed and distinct with age, when it has lost the volatile portion, the essential oil. Its taste resembles that of mastiche; it is agreeable and free from the bitterness and acridity of the pinaceous turpentines.—P.J. 1880, 854,271.

Mistura Terebinthinæ Chiæ.

Acacia in powder ...	... 480 grains.
Tragacanth in powder	... 100 grains.
Chian Turpentine ...	... 480 grains
dissolved in	
Ether	... 1 ounce.
Distilled Water to ...	... 16 ounces.

To the powders contained in a dry mortar, add the solution and mix; then add boldly 2 ounces of water, triturate until emulsified, and add gradually 11 ounces of water. Stir frequently until the ether has evaporated, transfer to a bottle, and add water *q.s.* to 16 ounces.

Dose.—At first, 3 drachms daily, in divided doses, after food; gradually increased to 9 drachms daily. Contains 30 grains in 1 ounce. This mixture has now replaced the formulæ previously published, and in many cases of cancer proves of undoubted service.

Pilula Terebinthinæ Chiæ.

Chian Turpentine	3 grains.
Sublimed Sulphur	2 grains.

Make 1 pill: dose, 2 every 4 hours. Lycopodium may be added to preserve their shape.

Pilula Terebinthinæ et Zinci, L.H.

Chian Turpentine	4 grains.
Sulphate of Zinc	1 grain.

Make 1 pill: dose, 1 to 3 pills.

Cases of cancer of the female generative organs successfully treated by Chian turpentine.—L. i./80,477, 582; ii./80,553,955; i./81,155; ii./81,1033; Pr. xxv.45.

Summary of correspondence.—M.R. 1880,446.

Its failure in the treatment of cancer.—L. i./80,1019; L. ii./81,1155; L. ii./86,895.

Pharmaceutical preparations of.—P.J. 1880,854.

Letter on production of.—L. ii./80,588; P.J. 1880,271.

Sarcoma, case of, benefited by.—L. i./82,866.

Beneficial effect in cases of cancer of mouth and tongue.—B.M.J. i./88,895.

TEST SOLUTIONS.

Fehling's Solution (modified by the writer)

No. 1.

Sulphate of Copper... ...	181 grains.
Distilled Water to	6 ounces.

Dissolve.

No. 2.

Tartrate of Potassium, neutral	728 grains.
Caustic Soda	360 grains.
Distilled Water to	6 ounces.

Dissolve. Of a mixture of these two solutions in equal volumes, 10 c.c. will be decolorised and reduced by 0·05 gramme (or 53 minims = ¾ grain) of glucose or diabetic sugar in solution, with precipitation of yellowish red cuprous oxide, when the two are boiled together.

No. 2 solution should not be kept in a very cold place, else it will crystallize. By keeping the copper solution separate from the alkaline solution the test is prevented from becoming erroneously sensitive.*

Cupric Pellets,—the salts of Fehling's solution are prepared compressed into tablets.

Glass Capsules, containing about 1 c.c. of Fehling's Solution, are also prepared.—L. ii./80,192

Uroglycuronic acid, found in urine after administration of morphine, chloral, and chloroform, reduces Fehling's solution. Care necessary in determining presence of sugar.—B.M.J. ii./88,691; i./90,169; P.J. 1890,606.

Papers impregnated with **Indigo-Carmine, Sulphindigotate of Sodium,** are also prepared for testing urine for sugar, they can be had for qualitative testing or for quantitative estimation.—L. i./83,858,928,1021.

Phenyl-hydrazine Hydrochlorate is also used as a test for sugar. It is in colourless, shining, crystalline scales; and should be free from azo-compounds. A small quantity is warmed with twice its weight of sodium acetate in solution, an equal volume of the suspected solution added, and boiled for 20 minutes. On cooling, yellow crystals of phenyl-glucosazine are deposited if sugar be present.—B.M.J. i./87,469. Solution (1 in 1,000), recommended as a non-poisonous antiseptic.—P.J. 1889,608.

Albumen Tests :—

Acidulated Brine Test.

Diluted Hydrochloric Acid...	1 ounce.
Water	19 ounces.
Common Salt	3 pounds or *q.s.*

To saturate. An equal volume of this solution is care-

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*Ammoniated Cupric Test (Pavy).

Tartarated Soda, and Caustic Potash, of each	178 grains.
Distilled water	... *q.s.*

Dissolve and add in aqueous solution

Sulphate of Copper	... 36½ grains.

When cold add

Strong solution of Ammonia, sp. gr. 0·88 ...	6 ounces.
Distilled Water	to 1 pint.

This solution is not hyper-sensitive, ammonia is a solvent for the suboxide of copper, yet it does not interfere with the reduction of the oxide in sugar testing. 10 c.c. of the solution further diluted are kept boiling in a flask, air being excluded, while the urine *q.s.* is added to discharge the colour, a table shows the amount per 1,000 it will contain.—L. i./84,376 fully added to the suspected urine contained in a test-tube held aslant. If albumen be present, a white cloudy zone appears at the junction of the two fluids. The precipitate is not insoluble, but is redissolved by dilution with water, or even with the albuminous urine itself.—L. ii./82,613.

Ferrocyanic Acid Test Pellets.

Yellow Prussiate of Potassium and Acetic or Citric Acid mixed in solution set free Hydroferrocyanic Acid. On the addition of such a solution to urine, it gives, without heat even, a distinct opalescence if a small, and a dense white precipitate if a large, quantity of albumen be present. Pellets are made of citric acid and also of ferrocyanide of potassium to be portable. In about a drachm of urine, in a test tube, an acid pellet is first dissolved, next a ferrocyanide pellet is added and allowed to dissolve (without heat); if albumen is present a precipitate will immediately appear. This test does not precipitate peptones.—L. ii./82,823; L. i./83,191; B.M.J. i./83,308.

Iodomercurate of Potassium Solution, for volumetric estimation of albumen.

Iodide of Potassium ...	...	3·22 grammes.
Perchloride of Mercury	...	1·35 grammes.
Distilled water ...		to 100 c.c.

Confirmatory Solution.

Perchloride of Mercury	...	1 gramme.
Distilled water ...	..	100 c.c.

To 10 c.c. of urine add two drops of acetic acid, and the volumetric solution, drop by drop, stirring after each addition, counting the drops, until the urine is apparently unaffected by the test; now, after adding each drop of the test, put a drop of the urine being tested on a white porcelain dish and watch if a yellowish red colour appears on adding a minute drop of the Confirmatory Solution; as soon as it does, the albumen in the urine is exhausted. Each drop of test used (*minus* 3 for excess) represents 0·5 gramme of albumen per litre in the urine under examination. The test should be added from a pipette, delivering drops 5 centigrammes each.—L. ii./82, 614; L. i./83,139.

Millon's Reagent.—Nitroso-Nitrate of Mercury). Mercury 10; Nitric Acid (Sp. Gr. 1·185), 25 by weight; Water 25. Dissolve in a flask at lukewarm heat shaking often, and add to a solution formed by dissolving Mercury 10, in Nitric Acid (Sp. Gr. 1·25 to 1·3) 22 by weight without artificial heat. With albumen or urea this gives a yellow, then red coloration on heating.

Picric Acid Solution, Saturated Picric Acid.

The solution is carefully poured upon the urine contained in a test tube, and when this is held aslant an opalescent coagulated albuminous precipitate forms immediately between the yellow test solution at the top and the urine below, if albumen be present. It has also been suggested as a test for sugar in urine, as solution of glucose, if boiled with picric acid and solution of potash, reduces the yellow picric acid to deep red picramic acid, forming picramate of potassium, the depth of colour depending on the amount of sugar present.—L. ii./82,737,869,898,959,1002,1053,1095; L. i./83,161,454; B.M.J. i./83,505; B.M.J. ii./84,690, 1314; L. ii./84,1083.

The administration of alkaloids may cause urine to give a precipitate with picric acid, but this is redissolved on heating to the boiling point.—B.M.J. i./84,103,219.

Test Papers are prepared for testing urine for albumen impregnated with Peptone, Potassio-Mercuric Iodide, Potassium Ferrocyanide, Potassio-Mercuric Iodo-Cyanide, and Sodium Tungstate; and compound papers impregnated respectively with Picric Acid combined with Citric Acid, Sodium-Tungstate with Citric Acid, and Potassio-Mercuric Iodide with Citric Acid. (The last can be had for qualitative testing, and for quantitative estimation by a comparative opacity method.)—L. i./83,139,190; Pr. xxxii,91.

Trichloracetic Acid. A solution poured on albuminous urine causes a precipitation like nitric acid, without colouration. See p. 16.—B.M.J. ii./89, 1114; i./90,363; L. i./90,106.

Peptone Test for Bile.

Peptone, in powder ...	30 grains.
Salicylic Acid	4 grains.
Acetic Acid	30 minims.
Distilled Water	8 ounces.

Dissolve and filter till bright. On adding 20 minims of urine containing bile salts to 60 minims of this solution, an opalescence appears in proportion to the amount of bile constituents; it dissolves completely on adding acetic or citric acid, and diminishes, but does not disappear, on boiling.—L. i./85,741.

Nessler's Reagent for **Ammonia** (*Off.*). *Syn.* —SOLUTION OF POTASSIO-MERCURIC IODIDE.

Iodide of Potassium ...	270 grains.
Perchloride of Mercury ...	*q.s.*
Distilled Water	1 pint.

Dissolve the iodide of potassium and 100 grains of the perchloride of mercury in 15 ounces of boiling distilled water. To this add more of the perchloride in solution until the precipitate no longer disappears on well stirring, and a slight permanent precipitate remains. Then add Caustic Soda ... ... 2 ounces.

Dissolve, add a little more perchloride solution, shake, allow to settle, and when cold, dilute with

Distilled water to ... ... 1 pint.

On the addition of this test to ammonia or an ammonium salt in solution, it lets fall a brown precipitate of Dimercuric-ammonium Iodide.

Mayer's Reagent for Alkaloids, gives a white precipitate.

Perchloride of Mercury, 13·546 grammes; Iodide of Potassium, 49·8 grammes; Distilled Water to 1 litre.

Phenol-phthaleïn (*Off.*), a combination of phenol with a benzene derivative, in yellowish granular crystals. This forms

Tincture of Phenol-phthaleïn (*Off.*).

One part in proof spirit 500 parts by weight; is a colourless solution, but is turned to a purple red colour if added to a liquid containing an excess of alkali. This, again, is immediately decolorised by an excess of acid. It is not suited for ammonia estimation.

Tropæoline OO, and Methyl-Orange (Sulpho-benzene-azo-dimethylamine) have also been suggested as tests for the presence of free acids. They form yellow solutions; the colour of the solution of the former is changed to crimson by acids, that of the latter to pink, but no change of colour is produced either by carbonic acid, acid carbonates, or solutions of metallic salts.—Chem. News, ii./81,288; i./83,123; P.J. 1882,273.

Congo Red. An aniline colour prepared from tetra-azo-diphenylchloride and naphthionic acid. Is turned blue by acids, and red by alkalies (reverse of litmus).

Congo Paper is prepared by impregnating paper with a solution of Congo Red, 1 part, in 10,000 parts of a mixture of Alcohol 3, Water 1. It is not very sensitive, but may be used in cases in which results obtained with litmus remain doubtful, on account of the specific colour of the liquid. Has been used to indicate absence of Hydrochloric Acid in the stomach in cases of cancer; as weak lactic acid does not affect its colour. —B.M.J. ii./88,806.

Sodium Hypobromite, Solution of, see p. 346.

Sonstadt's Solution for **Testing Gems.**

Red Iodide of Mercury ...	3720 grains.
Iodide of Potassium ...	2830 grains.
Distilled Water	15½ drachms.

Dissolve and filter. Has Sp. Gr. 3. Used to test the specific gravity of gems. Quartz and Rock Crystal float in it, Diamond Sp. Gr. 3·5, Topaz Sp. Gr. about 3·5 and Zircon Sp. Gr. 4· to 4·75, sink in it. Phœnakite Sp. Gr. 3· is suspended in it. A solution having Sp. Gr. 3·36 may be made by using Iodide of Sodium in place of Iodide of Potassium.

THAPSIA.

The root of *Thapsia garganica*, an umbelliferous plant grown in Algeria (allied to the Silphion of the ancients); when exhausted with spirit yields a resin which is employed in the French Codex to form a rubefacient plaster, Emplastrum Thapsiæ; Fr. Sparadrap de Thapsia, Emplâtre Révulsif de Thapsia.

Theina.—See Caffeina, p. 81.

THEOBROMINA.

Theobromine.

Dose.—1 to 5 grains.

An organic base existing in cacao seeds,—*Theobroma Cacao*. It is a white crystalline powder, sparingly soluble in water, alcohol and ether. It is allied to Caffeine, being chemically viewed as dimethyl-xanthine, and Caffeine as trimethyl-xanthine.—See Caffeine, p. 81.

Diuretin.—*Dose.*—90 grains daily, in six doses.

Under this name is sold a sodio-salicylic compound of theobromine, of which it contains about 50 per cent.; it is a white powder, formed like the corresponding caffeine salt (see p. 83), freely soluble in water. Is diuretic, without affecting nervous system and causing sleeplessness.—L. i./90,42; P.J. 1889,501; Th. Gaz. Feb. 1890,99.

THUJA.

Arbor Vitæ.

From the young shoots of *Thuja occidentalis* a tincture is prepared equal in strength to one of the dried tops in 10 of 20 O.P. spirit.

Dose.—2 to 5 minims.

Like savin, Thuja has an irritating action on the skin, and has been employed to remove warts and fungoid granulations from ulcers; internally for amenorrhœa, pulmonary catarrh, and worms.—Rep. Pharmacie, 1886, 374.

THYMOL.

Thymol (*Off.*).

Dose.—½ to 2 grains or more, in pills with powdered soap and a trace of spirit, or in oily or aqueous solution.

A stearoptene contained in oil of thyme, *Thymus vulgaris*, but principally obtained from the oil of the fruit of *Ptychotis Ajowan*. In large transparent rhomboidal crystals melting at 111° F. and having the odour of thyme, an aromatic peppery taste, is caustic to the skin and very irritating to the mouth and mucous membrane. Soluble 1 in 800 of water, 1 in 200 of glycerine, 1 in 8 of alcohol and glycerine, equal parts;, soluble in fats and oils, and freely so in alcohol, ether, acetic acid, and caustic alkaline solutions. Thymol has been synthetically prepared from Cuminol, a constituent of oil of cumin. Thymol rubbed with an equal weight of Menthol forms an oily liquid (see Menthol); with 3 parts of Thymol and 2 Chloral Hydrate, equal parts of Thymol and Camphor, and equal parts of Thymol and Carbolic Acid, similar liquefactions take place.

Thymol is a powerful antiseptic and antiputrefactive; its preparations have been much used, like carbolic acid, for surgical dressings.

Liquor Thymol.

One part of Thymol dissolved in 800 of warm water forms an agreeable antiseptic lotion and disinfectant for the sick room, suitable for spraying into the air or sprinkling on the floor.

Ophthalmic discs of Thymol contain $\frac{1}{1000}$ grain, combined with gelatine.

Volckmann's Thymol Solution.

Thymol 1; Alcohol 20; Glycerine 20. Dissolve and add to Water 1,000.

Used as a spray and antiseptic lotion; does not produce eczema as carbolic lotion does.—Br. ii./79,xlviii.; Pr. xvii.203.

Soaps of Thymol are prepared for toilet use, containing about 1 in 1000: if used of this strength to the face the Thymol is irritating to the conjunctiva.

Spiritus Thymol.—*Dose*, 3 to 15 minims.

Thymol 1, Rectified Spirit, *q.s.* to 10; is convenient for dispensing, and for medicating the wool of antiseptic respirators.

Thymol Gauze, Carbasus Thymol.

Thymol	16
Spermaceti	500
Resin	50

Cotton gauze is impregnated with this mixture, liquefied by heat, so as to increase its weight 50 per cent. and contain 1 per cent. of Thymol.

Is used as an antiseptic dressing like carbolic gauze.

Pastillus Thymol is prepared, containing $\frac{1}{32}$ of a grain. See p. 196.

Unguentum Thymol.

Is made 5 to 30 grains to the ounce of Vaseline, Petroleum Cerate, or Lard, the strength depending on the purpose for which it is applied. It is important the Thymol should be dissolved in the basis by the aid of heat, and not made by simple mixture, as particles of undissolved Thymol produce great irritation; 10 grains dissolved in an ounce of Vaseline applied to the skin keeps off gnats, mosquitoes, &c.

Vapor Thymol, T.H.

Thymol	6 grains.
Rectified Spirit	1 drachm.
Light Carbonate of Magnesium	3 grains.
Water to	1 ounce.

A teaspoonful to a pint of water at 140° F. for inhalation; useful in pharyngitis and laryngitis when associated with exanthemata.

References.

1 in 1000 of saccharine solution stops fermentation.—Pr.xx.278.

Physiological properties and use in diabetes and catarrh of the bladder in dose of $\frac{1}{2}$ to $1\frac{1}{2}$ grains.—Pr. xxii.52.

A powerful germicide and antiseptic. A cultivating liquid is rendered sterile by 1 part of Thymol in 2000. —B.M.J. i./78,2.

In skin diseases a stimulant ointment 5 to 20 grains to the ounce of vaseline or lard is useful in the later stage of eczema, and dry later stages of psoriasis, and as a parasiticide in those of a fungoid nature.—B.M.J. i./78,225; Br. i./78,199.

Use as an antiseptic in uterine affections.—B.M.J. i./78,535.

As an external antiseptic application to wounds.—M.T.G. i./78,227.

In ozæna, use as a gargle and nasal injection.—B.M.J. ii./79,692.

In chronic eczema and as a parasiticide 20 grains to an ounce of vaseline most useful; the solution diluted as a mouth wash removes the smell of tobacco, and the soap is recommended for dandriff and in nursery generally. —B.M.J. i./79,14.

Chemical properties and uses.—P.J. i./78,391.

Ringworm of the scalp, recommended and used with success, 1 part Thymol in 4 volumes of chloroform and 12 volumes of olive oil.—L. i./81,241.

In burns, these washed and sprayed with Thymol Solution 1 in 1000 and painted with Thymolised Linseed Oil 1 in 100, the latter when absorbed reapplied so as to prevent contact with the air, yielded most favourable results.—Pr. xxvii.268.

Thymol 1, Ether 10, and Spirit 5, or Thymol 1, Petroleum Oil 18; used as pigments in ringworm of the scalp, whilst acting as parasiticides they dissolve the fat, loosen the hairs, and thus help epilation.— B.M.J. i./82,901.

Thymol used successfully in over 150 cases of typhoid; moderated production of heat, diminished tympanites, and checked diarrhœa.—B.M.J. i./89,430.

TRAGACANTHA.

Tragacanth (*Off.*).

Dose.—2 to 10 grains or more.

Glycerinum Tragacanthæ.

	T.H.	(*Off.*)
Tragacanth, in powder	120 grains	110 grains.
Glycerine	1 ounce	1 ounce.
Water	3 drachms	74 grains.

Mix and heat for 10 minutes in a water bath. Without heat, *off.*

Forms a useful pill excipient.—See p. 309.

Mucilago Tragacanthæ (*Off.*).

Dose.—1 drachm to 1 ounce, or more.

Improved formula suggested by the writer.—P.J. 1870,520.

Rectified Spirit ... ... 120 minims.

Put in a 20 ounce dry bottle and add

Tragacanth, in powder ... 60 grains.

Shake till evenly moistened and add

Distilled Water ... ... 10 ounces.

Shake again quickly to make a uniform mucilage. This keeps much better than mucilage of acacia—does not quickly turn sour, and is much more viscous. One part to 3 of aqueous fluid will suspend heavy insoluble powders.

Pulvis Tragacanthæ Compositus (*Off.*).

Tragacanth 1, Gum Acacia 1, Starch 1, and Sugar 3.

Dose.—10 to 60 grains. Is used as last preparation, 10 grains to 1 oz., but mixtures containing it do not keep so well.

Traumaticin.—See p. 109.

TRIMETHYLAMINA.

Trimethylamine. *Syn.*—SECALIN; PROPYLAMINE (?).

Dose of the solution.—20 to 60 minims every 2 to 4 hours.

A solution of this compound ammonia, containing commercially from 10 to 20 per cent. of it dissolved in water was, under the incorrect name of Propylamine, first employed medicinally for the cure of articular rheumatism by Awenarius, of St. Petersburg, in 1854. He reported 250 cases, and affirmed it dissipated the fever and pain of the acute disease in a day or two. Medicinal Trimethylamine is obtained principally by distilling herring brine or stale fish with lime, and purifying the distillate. It was first obtained by the action of a caustic alkali on ergot, and named Secalin. It has been abstracted from the leaves of common beet and stinking goosefoot, the flowers of hawthorn and arnica, and by heating codeine with potassa, as well as from guano and some other animal substances. The commercial preparation (20 per cent.) is alkaline, colourless, has a strong, herring-brine odour, and is miscible with water. Its taste may be disguised by sweetened peppermint water or syrup of orange-peel. The salt,

Trimethylaminæ Hydrochloras,

Dose.—2 to 3 grains, 3 to 5 times a day,

Is obtained by neutralising the solution with hydrochloric acid and evaporating to crystallization. It is in deliquescent prismatic crystals, very soluble in water, has a slight fishy odour, and a pungent, saline taste; may be given in solution, but more agreeably in a pill with powdered althæa root and glycerine of tragacanth, and covered with sandarach solution.

In acute rheumatism, given with excellent effects, especially when begun early.—Pr. x.385.

Results of 32 hospital cases; it is a cardio-vascular sedative, limiting nutrition, and promoting expectoration, useful in acute attacks of rheumatism.—Pr xxiii.365.

Acute articular rheumatism, 7 cases quickly cured by it.—B. F. M. Ch. Rev. i./73,497.

Physiological experiments, it increases functions of the cord and accelerates the heart's action; poisonous doses kill by cardio-pulmonary asphyxia.—M.T.G. ii./74,240.

Employed in 14 cases of acute rheumatism with success, also of value as a liniment; 1 to 3 of glycerine for rheumatic pains.—M.R. 1875,25.

Four cases of rheumatism and gout treated by it.—Br. i./75,46.

Editorial note on 28 cases of acute rheumatism treated by gramme doses of solution every 2 hours, results good. —L. i./75,67.

TRITICUM, U.S.

The underground stems (stolons) of *Triticum repens*, Couch-grass, Dog-grass, or Quitch. Contains gummy and saccharine demulcent principles. Is diuretic and emollient; used in bladder and kidney affections.

Decoctum Tritici, B.P.C.—*Dose.*—2 to 8 ounces. 1 to produce 20.

Extractum Tritici Liquidum.

Dose.—1 to 6 drachms.

Triticum, in No. 20 powder ... 10 ounces.
Rectified Spirit } of each *q.s.*
Distilled Water }

Moisten the powder with 4 ounces of water, pack in a percolator, and pour boiling water upon it until exhausted. Evaporate the percolate to 15 ounces, add to it 5 ounces of rectified spirit, mix, and set aside for 48 hours. Then filter, and add to the filtrate a mixture of distilled water 3, and rectified spirit 1, *q.s.* to produce 1 pint.

URANII NITRAS.

Nitrate of Uranium.

Dose.—$\frac{1}{2}$ to 5 grains.

Is in large lemon-yellow slightly efflorescent prismatic crystals. It is soluble in half its weight of water, and has an astringent styptic taste. Its solution, 10 grains to an ounce, is used as a throat spray, and internally it has been given with good effect in diabetes in dose of 1 to 5 grains.

Is liable to produce inflammation of the intestines and kidneys, sugar in urine, and failure of nervous power.—Th. Gaz. Oct. 1888,698.

VERATRI VIRIDIS RHIZOMA.

Green Hellebore Rhizome (*Off.*).

Dose, in powder.—1 to 5 grains.

The dried rhizome and rootlets of *Veratrum viride*, imported from the United States. Its powder excites sneezing, and it contains the alkaloids Jervine, Veratrine, and Veratroidine. The rhizome of *V. album* and a Wine prepared from it were official in P.L. 1851. It possesses similar properties to *V. viride.* They are recommended as cardiac, arterial, and nervous sedatives. They are said not to be narcotic, but they lower the pulse, respirations, and temperature of the body. Acts on the heart as a powerful cardiac poison analogous to digitalis, but is much more rapid in its action; does not lower the temperature in health.—Pr. i /70,211 ; L.i./87,951. For puerperal eclampsia.—Th. Gaz.Oct.1887,675.

Tinctura Veratri Viridis. 1 in 5 of rectified spirit. *Dose.*—5 to 20 minims.

VERATRINA.

Veratrine (*Off.*).

Dose.—$\frac{1}{70}$ to $\frac{1}{16}$ grain, in a pill carefully triturated with sugar of milk and glycerine of tragacanth. An alkaloid, not quite pure, obtained from the seeds of *Schœnocaulon officinale*—Sabadilla or Cevadilla seeds; in white or greyish white pulverulent masses; it powerfully irritates the nostrils and excites sneezing; taste bitter and acrid. Nearly insoluble in water; soluble 1 in 11 rectified spirit; 1 in 6 ether; readily and almost completely soluble in diluted acids (a little resin is left). It is poisonous, but has been used as an antipyretic and arterial sedative in fevers and acute inflammations—resembles Aconitine in its general effects—irritates mucous membranes, causes sneezing, pricking and twitching of the skin, given in large doses it causes vomiting and purging; sometimes given for neuralgia, spasm, rheumatism and gout, but its principal use is externally in the form of ointment for the relief of neuralgic pains.

Oleatum Veratrinæ, U.S.

Veratrine	2
Oleic Acid	100

Dissolve. Useful for neuralgia.

Unguentum Veratrinæ (*Off.*).

Veratrine	8 grains.
Olive Oil	1 drachm.

Rub together.

Hard Paraffin	$\frac{1}{4}$ ounce.
Soft Paraffin	$\frac{3}{4}$ ounce.

Melt, and when cooling add the mixture of Veratrine and oil, and stir till cold. It excites a sensation of warmth and pricking, followed by coldness; if applied for some time, it will produce a red rash. Like aconitine ointment, than which it is much cheaper, it is useful for facial neuralgia. The ointment is often made stronger, 20 to 40 grains to the ounce, and then it proves very useful in the treatment of sciatica, rubbed into the painful part for 20 to 30 minutes, 2 or 3 times a day, also useful in the neuralgic pain consequent on shingles.

References.

In neuralgia and nervous diseases $\frac{1}{16}$ grain twice a day does good, also relieves palsy from cold.—L. i./48,501.

Physiological action.—M.T.G. ii./60,295, and R.

Relieves toothache applied locally.—L. i./62,54.

Researches on the action of Veratrine on man and other animals, hypodermic injection painful on man, lowers the tension of the circulatory system and makes pulse irregular, feeble, and intermittent, tried for pneumonia.—Rank. i./70,143.

Physiological effects.—Rank. ii./72,125,126.

Alcoholic tremor, and that of sclerosis were relieved by $\frac{1}{130}$ grain doses four times a day.—L. ii./83, 118.

Internally and externally, recommended for pruritus.—M.T.G. i./84,509; Pr. xxxiii.61.

VERBASCUM THAPSUS.

Great Mullein.

This indigenous scrophulariaceous plant is much used as a household remedy on the Continent, and a sweetened decoction in milk, 1 in 5 of fresh leaves or about 1 in 40 of dried, is employed in Ireland in incipient phthisis for its weight increasing and curative power.—P.J. 1883, 309; B.M.J. ii./84,907,1013; L. i./85,1051.

Smoking the dried leaves controlled racking cough in a case of phthisis.—B.M.J. i./84,664.

Tinctura Verbasci.

Dose.—20 to 60 minims. 1 in 8 of proof spirit.

ZINCUM.

Zinc (*Off.*).

Calamina Præparata.—See p. 240.

Zinci Bromidum, Bromide of Zinc, U.S.

Dose.—3 to 10 grains, in water well diluted.

A white granular powder, very deliquescent, odourless, having a sharp saline and metallic taste, and a neutral reaction, very soluble in water and alcohol. As both bromides and zinc salts have been used with success in epilepsy, this salt has been given with the intent of combining the action of both.

References.

Bromide of Zinc is borne badly, although Zinc unquestionably deserves some of the repute it has enjoyed as an anti-epileptic.—B.M.J. i./80,548.

Diminishes sensation and causes somnolence.—L. i./85,722.

Zinci Chloridum, Chloride of Zinc (*Off.*)

Syn.—Butter of Zinc.

Collodium Zinci Chloridi.—See p. 151.

Guttæ Zinci Chloridi, R.O.H.

2 grains to Distilled Water 1 ounce.

Guttæ Zinci Chloridi cum Cocaina, R.O.H.

10 grains Hydrochlorate of Cocaine added to an ounce of the above.

Liquor Zinci Chloridi (*Off.*).

Four minims of this solution = 3 grains of solid Chloride of Zinc. On diluting this Liquor, or making a solution of the salt, with water, generally a white precipitate (Basic Oxychloride) is formed, which may be redissolved by adding a trace of hydrochloric acid.

Chloride of Zinc is a powerful caustic, antiseptic, and antiputrescent. The Liquor, or an impure solution known as Sir W. Burnett's Disinfecting Fluid, is a powerful deodorising antiseptic solution; it is odourless (but *very poisonous*) and specially useful for disinfecting the utensils, &c., in the sick-room of fever patients; it quickly permeates or disintegrates all organic matter *with which it comes in contact.*

Pasta Zinci Chloridi, Mid. H.; R.O.H.

Chloride of Zinc ...	...	16 ounces.
Opium, in Powder	...	1½ ounces.
Hydrochloric Acid	...	6 drachms.
Boiling Water ...	to	1 pint.

Macerate the Opium in 12 ounces of the water for 12 hours, add the acid, and filter, dissolve the Chloride of Zinc in the filtered liquid, and add water *q.s.* to produce 1 pint.

To above solution ...	...	1 ounce.
Add Wheaten Flour...	...	120 grains.

Mix and heat in a water bath until of a proper consistence. It is used as a caustic for cancerous sores, spread on lint, one or more layers being used. Weaker and firmer applications containing more flour are also used. Chloride of Zinc pounded with an equal weight of oil of theobroma is sometimes used, and may be formed into darts, spear or rod-shaped, for insertion into wounds or sores.

Solutio Zinci Chloridi Antiseptica.

Chloride of Zinc ...	...	40 grains.
Distilled Water ...	...	1 ounce.

This solution produces such an antiseptic effect upon the tissues of a recent wound, that, as the result of a single application, the cut surface, though not presenting any visible slough, is rendered incapable of putrefaction for 2 or 3 days, notwithstanding its exposure to septic influence. It is particularly useful in tongue cases, after the removal of tumours of the jaws, or operations about the anus, and after amputations or excisions in parts affected with putrid sinuses; it is freely applied on a piece of lint to all textures including bones, and injected into sinuses.—B.M.J. ii./68,53.

Chloride of Zinc has the property of rendering a wound aseptic which has already become septic. An 8 per cent. solution is more energetic than a 5 per cent. solution of carbolic acid, and is useful in checking parenchymatous hæmorrhage after operations. — M.R. 1882,405.

Zinci Citras. *Dose.*—3 to 12 grains or more.

An amorphous white powder with a sharp metallic taste, not perfectly soluble in water, as it is a basic salt. Used for epilepsy.

Zinci Cyanidum, Cyanide of Zinc.
Dose.—$\frac{1}{10}$ to 1 grain.

An insoluble white powder, is of value in heart diseases; resembles digitalis in its action; relieves palpitation and irregularity of action.—L. ii./87,277; B.M.J. ii./87,421; Th. Gaz. Jan. 1889.71.

Possesses antiseptic properties, but not equal to the **Mercuro-Zinc Cyanide.**
See p. 203.—L. ii./89,943; B.M.J. ii./89,1028.

Zinci et Potassii Cyanidum. *Dose.*—$\frac{1}{10}$ to 1 grain.

Is a soluble cyanide, possessing all the properties of hydrocyanic acid in a stable form.

Zinci Lactas, Lactate of Zinc.
Dose.—3 to 30 grains in pill, increased as it can be borne.

Is in white crystalline crusts, with a sharp metallic taste, freely soluble in water but insoluble in alcohol. This Salt least deranges the stomach, and has been much used in France for epilepsy.

Zinci Oleatum.—See p. 276.

Zinci Oxidum, Oxide of Zinc (*Off.*).—See p. 240.

Cremor Zinci.—See p. 289.

Gelatum Zincum. Gelatine 2, Water 8, soak 12 hours then heat to dissolve, and add Oxide of Zinc 3, previously rubbed down with Glycerine 6. For use it is melted and applied with a brush to eczematous surfaces.—B.M.J. ii./87,449.

Pulvis Zinci et Hydrargyri Subchloridi, (Westminster Hosp). Oxide of Zinc, Calomel, Tannic Acid, and Starch, equal parts.

Salve Mulls are spread containing Oxide of Zinc 10 and 20 per cent.; and Oxide of Zinc 20 per cent. combined with Ichthyol 4 per cent.; also Oxide of Zinc 20 per cent. combined with Red Oxide of Mercury 10 per cent. respectively.

Zinci Permanganas.—See p. 322.

Notes of its use in 70 cases of urethritis; 10 cured, in 54 discharge greatly diminished; absence of irritation marked, 1 grain in 8 ounces of water used.—B.M.J. i./89,1458.

Zinci Phosphidum.—See p. 297.

Zinci Sulphas, Sulphate of Zinc (*Off.*).
Dose.—1 to 3 gr. tonic, 10 to 30 gr. emetic.

Lotio Rubra, U.C.H. Sulphate of Zinc, 2 grains; Compound Tincture of Lavender, 15 minims; Water, to 1 ounce.

Lotio Sulphatum.

Sulphate of Zinc, 30 to 40 grains; Alum, 30 to 40 grains; Sulphate of Iron, 20 grains; Sulphate of Copper, 2 grains; Water, 8 ounces.

Used as an injection for gleet.—B.M.J. i./89.1458.

Ophthalmic Discs contain $\frac{1}{250}$ grain **Sulphate of Zinc,** and $\frac{1}{250}$ grain each **Sulphate of Zinc and Opium,** respectively.

Points of Sulphate of Zinc are moulded for intra-uterine medication. **Points of equal parts Sulphate of Zinc and Alum,** and of **Sulphate of Copper** are also made.

Zinci Sulphocarbolas.—See p. 14.

Zinci Sulpho-ichthyolas.—See p. 218.

Zinci Valerianas, Valerianate of Zinc (*Off.*).
Dose.—1 to 3 grains in a pill with mucilage of acacia.

The crystallized salt is preferred, and pills containing 3 grains in each are generally kept prepared.

SECONDARY LIST OF DRUGS.

OF SOME WE HAVE HAD LITTLE OR NO EXPERIENCE, OTHERS ARE OLD REMEDIES RECENTLY RESUSCITATED.

Abies Canadensis.—Hemlock Pitch Bark. A fluid extract is recommended for use as an astringent in leucorrhœa. —L. ii./86,888; and given internally as an astringent for diarrhœa, hæmoptysis, and night sweats.

Achyranthes aspera.—*Aghara,* or *Gas-karal-heba,* an Indian plant, possesses astringent and diuretic properties. Is used in dysentery, diarrhœa, menorrhagia, and dropsy, and applied locally to bites and stings of insects and reptiles. Ash contains a quantity of potash, and its Sanskrit name signifies *The Washerman.* Decoction, 1 in 20. *Dose,* 2 ounces. Liquid Extract, 1=1. *Dose,* 1 drachm.

Aconitum · ferox.—Root, called *Bish* or *Bikh* in India Nepaul Aconite by London druggists. Contains much Aconitine (Pseud-Aconitine of Flückiger) (see p. 36) of a virulently poisonous nature. It comes from the Himalayas, probably mixed with the root of other species of aconite, and is in bolder roots than the aconite root imported from Germany. Therapeutically, its action resembles that of *A. Napellus,* but is more diuretic and less antipyretic and diaphoretic. Internally, has relieved many cases of neuralgia and acute gout, and forms a valuable liniment for chilblains, &c.—B.M.J. ii./84,1276; L. i./85,236. Tincture, 1 in 8 of rectified spirit. *Dose,* 1 minim hourly.

Aconitum Fischeri.—Produces Japanese Aconite Root, of which much has at times been imported. It is very pungent, and yields the alkaloid Japaconitine. *A. Japonicum,* Thunberg, with yellowish white flowers, has been identified as a variety of *A. Lycoctonum.* In the root of the European variety of the latter two alkaloids have been found, Lycaconitine and Myoctonine, both of which possess poisonous properties like Curare.—P.J. 1884,82,104; 1885,892. Botany of.—P.J. 1881, 1021,1041; Th. Gaz. June 1889,379.

Aconitum heterophyllum.—Root, known as *Atis* or *Atees* in India, is neither poisonous nor antipyretic, but is tonic, and possibly aphrodisiac in action. It contains a large quantity of starch. *Dose,* in powder, 5 to 20 grains; of tincture 1 in 8 of rectified spirit, 10 to 60 minims.

Adonis vernalis.—Leaves and stalks contain a glucoside Adonidin. They resemble Digitalis in their action, but are said not to be cumulative. *Dose,* in powder, 3 to 6 grains; of infusion 1 in 40, 4 drachms; of Adonidin, ¼ to ½ grain daily. Is a cardiac tonic and diuretic.—B.M.J. i./86,709. Does not rival digitalis.—L. i./86,223. Use in dilated rather than hypertrophied heart.—Pr. xxxix. 128; Y.B. 1888,13. Successful use; disappearance of throbbing headache, perspiration, and dyspnœa; sedative, but little diuretic, raises arterial tension. *L.* ii./88,1012. Relieves præcordial pain in mitral and aortic regurgitation; urine increased and coloured yellow.—L.i./89,596.

Agar-Agar.—Japanese Isinglass. Is in membrane-like strips, consisting of the dried jelly of *Gelidium corneum*, a seaweed. Another variety comes from Borneo. Used for making jellies for invalids, &c., and as a cultivating nidus for germs; also for finishing calicoes, silks, &c.

Alstonia constricta.—Bark is used in Australia as a febrifuge. *Dose*, in powder, 5 grains. A crystalline alkaloid, Alstonine or Chlorogenine, has been isolated from it. Tincture, 1 in 10 proof spirit. *Dose*, ½ to 2 drachms.

Alstonia scholaris.—Dita Bark, from India and the Philipine Islands. Contains a crystalline alkaloid, Ditaine, and the milky juice of the tree forms a substance resembling gutta percha. Tincture, 1 in 10 proof spirit. *Dose*, 1 to 2 drachms.

Arbutin.—A crystallized glucoside obtained from the leaves of *Arctostaphylos Uva Ursi* and other ericaceous plants. It is given for chronic cystitis and vesical catarrh, in dose of 15 to 60 grains with sugar; is not poisonous. It is split up in the system, hydroquinone being produced.—M.R. 1885,104; L. ii./86,184. Summary of German results.—Th. Gaz. 1887, 270.

Asclepias cornuti (A. SYRIACA).—Is diaphoretic and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias incarnata.—White Indian Hemp rhizome. Is a speedy, potent, and reliable diuretic.—Pr. xxiii.141. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias tuberosa.—Pleurisy Root. Is expectorant and diureti. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Blatta orientalis.—Cockroach. Is an old Russian remedy for dropsy lately brought into notice. *Dose*, 2 to 8 grains, in powder.

Boldoa fragrans (*Peumus Boldus*).—The leaves, from Chili and Bolivia, resemble those of Sweet Gale (*Myrica gale*), but are more aromatic. Used in dyspepsia, liver affections, rheumatism, and as a diuretic for atony of the bladder. Boldin, a glucoside, has hypnotic properties, and said also to have local anæsthetic properties like cocaine. Tincture of Boldo, 1 in 5 rectified spirit. *Dose*, 10 to 20 minims.—B.M.J. ii./85,1134; i./88,918.

Bonduc Seeds.—From *Cæsalpinia Bonducella* are grey, and *C. Bonduc* are yellowish. In Pharmacopœia of India as a bitter tonic and antiperiodic. *Dose*, in powder, 10 to 15 grains. The powder, deprived of shell, mixed with an equal quantity of black pepper, forms Pulvis Bonducellæ Compositus. *Dose*, 15 to 30 grains.—L. ii./86,324.

Cactus Grandiflorus.—Useful in some asthenic conditions of heart, and dropsy.—B.M.J. i./90,70; Y.B. 1890,9. Tincture, fresh flowers and young stems 1, alcohol 20. *Dose*, 1 to 10 minims or more (?).

Chekan.—The leaves of *Myrtus Chekan*. Are aromatic and expectorant; are used in chronic coughs and bronchitis. *Dose*, of fluid extract, ¼ to 3 drachms. Chemical research on.—Th. Gaz. 1888, May, 308.

Collinsonia Canadensis.—The root of this, commonly known as stone-root or knob-root in America, has been employed in gravel and other urinary affections. Is an antispasmodic in flatulent, infantile, and biliary colic, and locally in lax conditions of the uvula, pharynx, and vocal cords. Tincture, 1 in 10 of proof spirit. *Dose*, ½ to 2 drachms. Liquid Extract, 1 in 1. *Dose*, 15 minims to 1 drachm. Suppositories containing 20 to 30 grains of the powder are also used. —B.M.J. ii./87,712. Gastric catarrh.—L. ii./86,31. Cancer of stomach.—B.M.J. i./87,688. Cystitis.—L. i./88,868.

Condurango, P. G.—The Bark of *Gonolobus Condurango*, from Peru. Is bitter and acrid. Used as an alterative, and was a supposed specific for cancer, syphilis, and latterly for dyspepsia. Note on physiological action.—L. i./84,812; ii./86,31. Contains a glucoside Condurangin, a nerve poison.

Cornus Florida, U. S.—Inner Bark of Root. It is bitter, tonic, and stomachic. *Dose*, in powder, 20 to 60 grains. A fluid extract is made, 1=1 of bark.

Crotalus.—A solution of the pure venom of the rattlesnake, *Crotalus horridus*, 1 in 1,000, 3 drops every three hours. Used in malignant scarlet fever.—L. ii./83,54; P.J. 1883,62.

Drosera rotundifolia.—The leaves of Sundew. Have been recommended for chronic bronchitis, asthma, whooping-cough, and to ease the cough of phthisis. Tincture =1 in 10 of proof spirit. *Dose*, 5 to 10 minims.

Eugenol, *Syn*. Eugenic Acid.—A colourless oily liquid, darkening on exposure, obtained as an oxidation product of oil of cloves. It has a strong clove odour, and is a powerful antiseptic and antiputrescent. Has been employed by dentists. Caused reduced sensibility of mucous membrane, but not complete anæsthesia. Useful with lanolin in eczema.—Th. Gaz. May 1889,344.

Eupatorium perfoliatum, U.S.—Boneset, Thoroughwort. The leaves and flowering tops contain a volatile oil and a glucoside, Eupatorin; is tonic and diaphoretic. Warm infusion is used like chamomile tea as an emetic. Given for ague, dyspepsia, and debility. In large doses is cathartic, and has been given to expel tænia. *Dose*, in powder, 10 to 60 grains; or 10 to 60 minims of fluid extract, U.S.

Galium aparine.—The plant Cleaver's or Goose Grass. Is acid, astringent, and diuretic. Has been used in dropsy, jaundice, scrofulous scaly eruptions, epilepsy, and obesity; and, externally, a poultice of the fresh plant beat into a pulp and the juice have been applied to promote healthy granulation in cancerous sores, and as a styptic for bleeding wounds. Succus Galii, *dose*, 1 to 2 drachms; and Extractum Galii, 5 to 20 grains. —B.M.J. i./83,1173; ii./83,14. For psoriasis.—B.M.J. i./86, 688.

Geoffroya inermis (*Andira inermis*).—Bark of Cabbage Tree, Worm-bark Tree of tropical America. Is bitter, astringent, febrifuge, and vermifuge in dose of 20 to 30 grains; larger doses are emetic, purgative, and narcotic.

Geranium Maculatum, U.S.—Cranesbill root, is a powerful astringent; contains about 16 per cent. of tannin; used in diarrhœa, and locally in relaxed conditions of the mucous membranes. Geranin, a dried extract, is given in dose of 1 to 5 grains. Fluid Extract, U.S., *Dose*, 15 to 60 minims.

Gouania Domingensis.—Jamaica Chew stick. Root contains Saponin; in powder is used as a dentifrice and to make mouth lotions; root stem also used as a tooth brush in U.S.A., and chewed after meals as a sialogogue to assist digestion.

Henna.—The dried leaves powdered of *Lawsonia inermis*, *L. spinosa*, and *L. alba*. Are used in Egypt for toilet purposes as a cosmetic dye.

Hydrocotyle Asiatica.—This umbelliferous herb is used in India for specific skin diseases, scaly eruptions, and ozæna, as an alterative and diuretic, in 4 to 10 grain doses internally; is added to lard as an ointment, also to poultices, and used as snuff in ozæna. Contains 15 per cent. of a volatile oil named Vellarine.—L. i./85,444.

Hydroxylamine is formed by the action of nascent hydrogen on nitric acid. It is only known in aqueous solution, odourless and colourless. Its strong reducing properties suggested its use in dermatology instead of chrysarobin. It is a powerful poison to low organic forms. Does not stain the skin. Large doses produce hæmaturia on account of destroying the red blood-corpuscles. The HYDROCHLORATE is in large odourless and colourless hygroscopic crystals, with an acid taste and reaction, freely soluble in water. Solution 1 in 1,000 of equal parts of glycerine and spirit, successful in lupus, ringworm, and parasitic sycosis. Strongly irritant.—B.M.J. ii./88, 1123; L. i./89,287; P.J. 1888,425; C.&D. ii./88,99; Th. Gaz. Aug. 1889,571; Sept. 614,630; B.M.J. ii./89,1297; Y.B. 1890, 304.

Hymenodictyon excelsum.—Inner bark is in Indian Pharmacopœia. Is astringent and bitter like cinchona, and is given as a tonic and febrifuge. Contains the alkaloid Hymenodictyonine, and Æsculin.—P.J. 1883,311; 1884,195.

Jacaranda lancifoliata.—A Columbian plant. The fluid extract of this, known as Salud, has been recommended for syphilis, gonorrhœa, and gleet. *J. procera*, *J. tomentosa*, and other species are known by the name of Caroba in Brazil, and are said to have similar properties.—P.J. 1875,905; B.M.J. i./85,327.

Jambul.—The seeds of *Eugenia Jambolana*, have been used in cases of diabetes. Is said to check the diastasic conversion of starch into sugar. May be administered in powder, or in pills, capsules, or cachets. *Dose*, 5 to 10 grains.—B.M.J. i./87,617; ii./87,1459; i./88,901,1112; L. ii./87,604,733; i./88, 868; P.J. 1888,921,508; Pr. xl.450; xli.418. Controlled diabetes induced by phloridzin.—L. ii./89,902; C.&D. ii./89,85.

Jatropha Curcas (*Curcas purgans*).—Physic Nut, in Pharmacopœia of India. Yields about 30 per cent. of a fixed purgative oil, which has an almond-like taste; 12 to 15 drops have the same effect as an ounce of castor oil; externally, it is a stimulant, and in the East is applied locally to increase the secretion of milk. Capsules, 10 minims in each.

Kava-Kava.—Root of *Piper methysticum*, imported from the Polynesian Islands. Is used by natives as a sialogogue and to make a fermented drink. Contains an essential oil, two resins, and about 1 per cent. of a neutral crystalline principle, Kavalin or Methysticin, allied to Piperine. Is a bitter tonic, with agreeable taste, stimulates the nervous system, and is diuretic, Has been found useful for gonorrhœa and gout. Extract, hydro-alcoholic. *Dose*, 5 to 10 grains. Liquid Extract, 1 in 1, of 3 parts Spirit and 1 part water. *Dose*, 15 to 60 minims. Pill = 3 grains extract. *Dose*, 1 to 3 or 4. Infusion, 1 in 320. *Dose*, ½ pint.—B.M.J. i./86,221; P.J. 1886,918,1006,149,803. Though more palatable than, is not equal to copaiba or santal oil,—L. ii./87,604. Is a local anæsthetic to tongue and eye. —B.M.J. i./87,635.

Koromiko.—These herbs, *Veronica salicifolia* and *V. parviflora*, imported from New Zealand, are used there and in China as a remedy for chronic dysentery and diarrhœa. Tincture, 1 in 5 of proof spirit. *Dose*, ½ to 1 drachm.

Lachnanthes tinctoria.—Spirit Weed, Red Root. A tincture = 1 in 10 of proof spirit of this United States plant; is used to check the cough in phthisis. *Dose*, 1 to 10 minims.

Lycoperdon giganteum.—Puff Ball. This forms a soft and comfortable surgical dressing. The dusty powder is a powerful hæmostatic.—Whitla.

Maidis Stigmata.—*Syn.*—Corn Silk. The thread-like stigmata of nearly ripe Maize fruit. Are demulcent and diuretic. Used in acute and chronic affections of the kidneys and bladder, *e.g.*, catarrh of, cystitis, nocturnal incontinence of urine, and cardiac dropsy. Useful in renal catarrh and colic.—M.R. 1885,103. Fluid extract, *dose*, 1 drachm; of extract, 20 grains.—L. ii./85,799; ii./87,605.

Maidis Ustilago.—Maize Ergot, Corn Ergot. Is used in parturition in place of ergot. Is said to increase the force without increasing the duration of uterine contractions. *Dose*, 15 to 60 grains, Fluid Extract, ½ to 2 drachms.—Pr. xl.215; Th. Gaz. Dec. 1887,844.

Manaca.—Root of *Franciscea uniflora*, from Brazil and equatorial America. Is purgative and diuretic; much recommended for syphilis and rheumatism.

Mandragorine.—A crystallised alkaloid, obtained from Mandrake root, *Mandragora officinalis*. A solution of the sulphate is a mydriatic. The plant itself was, by the ancients, considered a narcotic.—P.J. 1885,1067; 1888,268. L. ii./85,87.

Myrtol.—A constituent of myrtle oil; has been recommended in putrid affections of lungs and air passages. Expectoration lessened, but no effect on bacilli. *Dose*, 2 to 5 minims in capsules.—B.M.J. i./89,336; P.J. 1889,782; Y.B. 1890.307.

Pharbitis Nil.—Seeds. *Syn.*—Kaladana in Pharmacopœia of India. Are official to produce Pharbitisin, a resin allied to Resin of Jalap, given in dose of 2 to 8 grains as a purgative.

Phellandrium aquaticum.—Fruit of Water-Fennel. Is a stimulant, diaphoretic, and expectorant; useful in bronchitis and phthisis.

Phloridzin.—*Syn.*—Phlorizin, a glucoside from the bark of stem and root of the apple, pear, plum, and cherry, is in minute pinkish-white crystals, sparingly soluble in water, readily so in alcohol and ether, and possesses the peculiar property of inducing artificial diabetes (glycosuria) in animals to which it is administered.—C. & D. ii./89,85; L. ii./89,902.

Quillaia saponaria.—The bark of this (soap-bark) contains quillaic acid and sapotoxin, closely allied to saponin. Has a sweetish but acrid after-taste, and possesses emulsifying properties, causing frothing in water in which it has been macerated. Soap-bark has been used as an expectorant in bronchitis, contra-indicated in inflammation of the intestines or stomach, or ulcerated condition of the mucous membrane. Tincture, B.P.C., 1 in 10 of Rectified Spirit, is used in making tar preparations. See p. 116. *Dose*, 20 to 60 minims.—P.J. 1886,360. Better made with a weaker spirit for internal use.—L. ii./87,1287. Bark dust useful, sniffed every few minutes, for catarrhal rhinitis.—L. ii./88,437.

Safrol.—The principal constituent of sassafras oil; has been used as an anodyne in subacute rheumatism. *Dose*, 20 to 30 minims.

Salix nigra.—The root of this, the black or pussy willow, is used in North America as a sexual sedative in gonorrhea and spermatorrhœa. Liquid extract, 1 in 1. *Dose*, $\frac{1}{2}$ to 1 drachm. Relieves ovarian pain and nocturnal emissions.—B.M.J. ii./87, 237; L. i./88,869.

Sapo Viridis.—*Syn.*—Sapo Kalinus (P.G.). The potash or soft soap in German commerce, is generally made with linseed oil, has a pale brownish-green colour, and is a useful detergent in some skin diseases.

Sarracenia purpurea.—Pitcher Plant. This herb is considered tonic and diuretic; at one time used as a specific for small-pox.

Scillipicrin.—A principle obtained from the bulb of *Scilla maritima*; is an amorphous yellowish-white powder, very hygroscopic,—suitable for hypodermic injection; acts powerfully on the heart, retarding its action and in toxic doses—$\frac{1}{60}$ to $\frac{1}{30}$ grain in the frog—arrests the heart in diastole.—B.M.J. ii./79,198; P.J. 1879,1038. *Dose.*—?

Scillitoxin.—*Syn.*—SCILLAIN. A principle from the bulb of *Scilla maritima*; is an amorphous cinnamon-brown powder, insoluble in water and ether; soluble in alcohol, has a bitter, burning taste; also soluble in aqueous alkaline solutions. The powder is very irritating to the nostrils. It arrests the action of the frog's heart in systole, and is about 8 times as strong a poison as scillipicrin.—B.M.J. ii./79,198. P.J, 1879, 1038. *Dose.*—?

Scopola Carniolica.—The root of this, an Austrian plant, has been imported as a substitute for belladonna. It contains the alkaloid hyoscyamine in comparatively large quantities, and almost free from admixture with other mydriatic alkaloids. Given internally, it is said to cause less dryness of the throat than belladonna, and is probably more nearly allied to hyoscyamus in its action. Liniment, Ointment, and Plaster, corresponding to those of Belladonna are prepared, also Extract, *Dose*, $\frac{1}{8}$ to $\frac{1}{2}$ grain; Liquid Extract, *Dose*, 1 to 5 minims, and Tincture, *Dose*, 5 to 30 minims.—P.J. 1889,461,464,466,468,471,500; L. ii./89,1297; B.M.J. i./90,92.

Scopola Japonica.—The root of this, known in commerce as Japanese Belladonna, yields an alkaloid, Scopoline, which is a mydriatic, and produces as much dilatation as atropine in half the time, and effects last longer.—L. ii./84,558; B.M.J. i./86,1113. This Scopoline has proved to be a mixture of atropine, hyoscine and hyoscyamine.—P.J. 1889,461.

Scutellarin.—The dried extract of *Scutellaria lateriflora*—mad-dog skull-cap. Is of a greenish-brown colour, and is given as a nervous stimulant. Suggested use in cases of epilepsy, chorea, and insomnia; relieved severe hiccough.—B.M.J. ii./85,1158. *Dose.*—1 to 5 grains in a pill.

Sethia acuminata.—Is a vermifuge, especially for round worm; useful for children, as its taste is not disagreeable. Fluid extract, 2 = 1 of leaves. *Dose*, 20 to 40 minims.—P.J. 1882,818. Has also narcotic properties.

Siegesbeckia orientalis.—This herb is said to be useful, combined with iodide of potassium, in syphilis and gout. The juice is healing applied to gangrenous sores. Recommended as a topical application for tinea and thrush.—B.M.J. i./87, 1304; ii./87,508.

Simulo.—Fruit of *Capparis coriacea*, from Peru. Its powder, 45 grammes in 500 grammes of sweet wine, of which a wineglassful was taken every night and morning, cured a case (Dr. Larrea, who narrates it) of epilepsy after he had 14 fits, preceded by a distinct aura. He has used it much in nervous diseases, hysteria, and epilepsy. — L. i./85,722; B.M.J. i./85,1184; P.J. 1885,890. Cases of epilepsy improved by its use.—L. i./88,617. Th. Gaz. June, 1889,396.

Soya Hispida.—*Syn.*—DOLICHOS SOJA.—The seeds of the soy bean are recommended as food, made into a kind of bread, for diabetic patients. They contain only 6·4 per cent. of starch, 36·7 per cent. of proteid matter, and 17 per cent. of fat. Slightly purgative at first, but toleration soon established.—P.J. 1889,118; Th. Gaz. Jan. 1889,44.

Tayuya.—"Leroy vegetal." Root of *Trianosperma ficifolia*, a Brazilian plant allied to *Bryonia alba*. Is a drastic purgative and emetic, excitant to the lymphatic system, and an active depurative. Tincture, 1 in 4 proof spirit. *Dose*, 6 to 15 minims, increased. Is used for tertiary syphilis and dropsy. Active principle, Tayuyina (Trianospermina of Peckolt), is a drastic purgative.—P.J. 1880,667; is ascribed to *Dermophylla pendatica.*—L. ii./81,891.

Tonga.—A special preparation for the cure of neuralgia, in dose of 1 to 2 drachms in water three times a day. It is a dark brown liquid, the active portion of which is obtained from the scraped stem of *Epipremnum mirabile*, or *Raphidophora vitensis*, an araceous creeper, native of the Fiji Islands; the bark of *Premna Taitensis*, one of the *Verbenaceæ*, is also used in its manufacture. — P.J. 1880,770,849,889; L. i./81,84; B.M.J. ii./81,171. Use in neuralgia, does not affect the pupil or produce toxic symptoms.—L. i. 80,360,445,835.

The writer has prepared from *Arum maculatum* **Succus Ari.** *Dose.*—1 drachm. This, a medical friend informed him, relieved an obstinate case of neuralgia in which Tonga was a useful but expensive medicine.—B.M.J. i. 81,998.

Ulexine.—An alkaloid in yellowish white crystals, soluble in water, obtained from *Ulex europæus*, or common furze. Is a powerful diuretic. It forms a hydrobromate freely soluble in water. *Dose* of each, $\frac{1}{40}$ to $\frac{1}{8}$ grain. Requires caution.—P.J. 1886,229. Benumbs the tongue, produces clonic spasm and palsy in frogs.—Prov. M.J. 1886,422 Physiological properties as an antidote to strychnine.—Th. Gaz. Oct. 1887,690; L. ii./86,645; L. i./88,211; P.J. 1889,1029.

Urethane.—*Syn.*—ETHYL CARBAMATE. Is in colourless prismatic crystals, easily soluble in water, tasting like nitre, inodorous; used as a hypnotic; produces normal sleep; heart is not affected. Especially suitable for children, cases of delirium tremens, and in acute mania. *Dose*, 15 to 60 grains.—L. ii./85,647; i./86,370; Pr. xxxv.275,328,417. Proved more useful than chloral in tetanus.—L. i./86,1112. Is antagonistic to strychnine.—L. ii./86,31. Insomnia of cardiac disease.—L. ii./85,1167. Other recommendations.—B.M.J. i./86,164; L. i./86,370; B.M.J. ii./86,468,640; i./89,119.

URALIUM.—*Syn.*—URAL. A compound of chloral and urethane, in minute white shining crystals, has been recommended as a hypnotic in doses of 15 to 45 grains.—B.M.J. i./89,609.—Th. Gaz. April 1889,283; May 348; Oct. 688.

SOMNAL.—A liquid preparation which is stated to be a combination of chloral alcoholate and urethane, has been employed in ½ drachm doses.—L. ii./89,1024; P.J. 1889,341.—B.M.J. ii./89,1234.

Urtica dioica.—Stinging Nettle. An alcoholic fluid extract prepared from entire young plant gathered in the spring. Is recommended as a local hæmostatic. Is applied on cotton wool for epistaxis, for hæmorrhage after tooth-extraction, &c.—L. ii./85,647.

Vanillin.—*Syn.*—VANILLIC ACID. Occurs in white acicular crystals, having a strong odour if obtained from vanilla; but is also obtained as a derivative of coniferine, a glucoside obtained from coniferous woods. Soluble in alcohol, ether, and oils, sparingly so in water. Vanillin 1, phloroglucin 2, in absolute alcohol 30, forms Günsberg's test for mineral acids, with which one drop gives a fine red colour, red crystals being precipitated; organic acids do not affect the test.—B.M.J. i./88,807; Th. Gaz. March, 1888,171. On lower animals is a convulsive agent causing epileptiform movements, but on man, 10 or 15 grammes given without noxious results. Use suggested in atonic dyspepsia as an excito-motor stimulant.—P.J. 1886,83.

Viburnum prunifolium, U.S.—Bark of Black Haws. Is an astringent and bitter nervine tonic; has a good repute for preventing abortion, and is used for dysmenorrhœa. Extract, *dose*, 2 to 10 grains. Liquid Extract, 1=1 of bark. *Dose*, 10 to 30 minims.—L. ii./85,36; Pr. xxxiv.50. Abortion threatened, pain and bleeding were checked, fifteen cases.—L. ii./86,883; see also B.M.J. i./86,391,489; ii./87,1153; Pr. xl.54; L. ii./88,133. A test for labour pains.—Th. Gaz. June 1889,385. The bark of *V. opulus* (Cramp Bark) is also used in the States as an anti-spasmodic, and for relaxing cramp of all kinds; in hysteria, during pregnancy. A combination with extract of malt is sold as Malto-Viburnin. *Dose*, 1 to 4 drachms.

Vinca major.—Great Periwinkle Herb. Is astringent, and has been used for menorrhagia. Infusion, 1 in 10. *Dose*, a wineglassful frequently. Liquid extract, 1½ drachms.

Viola tricolor, U.S.—Flowering plant of Wild Pansy. Is supposed to contain a little Violin, found in *Viola odorata*, and resembling Emetin in action. Is used externally as an ointment, and a poultice. *Dose*, 10 to 60 grains in infusion.

Viscum album.—Mistletoe. The berries are said to be emetic and purgative. The plant contains Viscin, a kind of birdlime. Has been used for epilepsy and hysteria. *Dose*, in powder, 10 to 60 grains.

Yerba Santa (*Eriodictyon glutinosum* or *E. Californicum*).—Leaves are aromatic and sweetish, often agglutinated together; they are stimulant to mucous membranes of the bronchial tubes. Used for bronchitis, phthisis, and other catarrhal affections. Fluid extract, 10 to 40 minims. Is sold combined with extract of malt, as Malto-Yerbine. *Dose*, 1 to 4 drachms.

GAUBIUS' TABLE

Of Proportion of Dose according to Age.

For an adult, suppose the dose to be		1	or	60	grains,
Under 1 year will require	,,	$\frac{1}{12}$	,,	5	,,
,, 2 ,, ,,	,,	$\frac{1}{8}$	,,	8	,,
,, 3 ,, ,,	,,	$\frac{1}{6}$	,,	10	,,
,, 4 ,, ,,	,,	$\frac{1}{4}$	,,	15	,,
,, 7 ,, ,,	,,	$\frac{1}{3}$	,,	20	,,
,, 14 ,, ,,	,,	$\frac{1}{2}$	,,	30	,,
,, 20 ,, ,,	,,	$\frac{2}{3}$	,,	40	,,
21 to 60, the full dose, or		1	,,	60	,,

Above this age, an inverse gradation must be observed.

Another rule is, for children under 12, add 12 to the age, and divide the age by the amount thus obtained; thus for 8 years $\frac{8}{8 + 12} = \frac{2}{5}$ of adult dose.

APPENDIX.

I.

ANTISEPTIC APPLICATIONS, SURGICAL DRESSINGS, &c.

	PAGE
Anæsthetics.	
A. C. E. Mixture (Alcohol, Chloroform, and Ether). For Inhalation...	104
Amyl Nitrite	53
,, ,, in Capsules for Inhalation	53
Carbon Tetrachloride	97
Chloroform, purif. from Acetone. Sp. Gr. 1·497 ...	101
Cocaine, pure, soluble in fats and oils	131
,, Hydrochlorate, pure cryst.	134
,, Solutions, 2 to 50 per cent.	
Ether, Absolute, from Methylated Spirit, Sp. Gr. 0·717. For local Anæsthesia	41
Ether, Rect., from Methylated Spirit, washed and purified, Sp. Gr. 0·720. For Inhalation ...	41
Ether, B.P., from pure Spirit. Sp. Gr. 0·735 ...	40
Ether, Pure ,, ,, ,, Sp. Gr. 0·720 ..	41
Ethidene Dichloride	171
Ethyl Bromide	41
Ethyl Iodide...	41
Methyl Chloride, compressed, in cylinders. For local Anæsthesia	251
Methylene	253
Bandages.	
Alembroth Gauze, 6 yd. rolls, 5 in. wide	207
Buttercloth, 6 yd. rolls, 2 in., 2½ in., 3 in., and 4 in.	
Calico, unbleached or white, 6 yd. rolls, 1 in., 2 in., 2½ in., 3 in., 4 in., 6 in. wide	
Carbolic Gauze, 6 yd. rolls, 5 in.	
Crinoline, for Silicating, 6 yd. rolls, 3 in.	9
Domette (flannel), 6 yd. rolls, 3 in.	
Elastic, Circular Stocking, 2½ in., 3 in., and 3½ in. ...	
Elastic, India Rubber Webbing, 1 in., 2 in., and 3 in.	
Eucalyptus Gauze, 6 yd. rolls, 5 in.	
Muslin, Check, for Plaster of Paris, 3 in.	171
Solvedge, or Fast Edge, 6 yd. rolls, 2 in., 2½ in., 3 in., and 3½ in.	
Selvedge, Unbleached, 6 yd. rolls, 2 in.	
Silicated, 6 yd. rolls, 3 in., 4 in., and 6 in.	349
White Absorbent, Open Wove, 6 yd. rolls, 2 in., 2½ in., 3 in., 4 in., and 6 in....	
"First Help for Wounds"	
Buttercloth	

	PAGE
Catgut, Carbolised, in bottles with Carbolic Oil, Nos. 0, 1, 2, and 3	9
,, In Juniper Oil, Nos. 0, 1, 2, and 3.	
,, Chromic, Nos. 0, 1, 2, and 3	16
Drainage Tubes, India Rubber, perforated, of various dimensions	
Gamgee's Tissue.	
Gauze, Alembroth, 1 per cent., 6 yd. pieces	207
,, ,, and Cotton Wool Tissue, 2 per cent., 1 lb. packages	207
,, Carbolic, 6 yd. pieces	9
,, Eucalyptus, 6 yd. pieces	174
,, Eucalembroth, 6 yd. pieces	207
,, Iodoform, 20 per cent., 6 yd. pieces	223
,, Mercuro-Zinc Cyanide, dry or moist	203
,, Salicylic, and Cotton Wool Tissue	
,, Thymol, 6 yd. pieces	371
,, White Absorbent, plain	
Gutta Percha Tissue	
Jaconet, Pink Macintosh or Hat Lining	10
Jute, from bark of *Corchorus sp. var.*, about 1 lb. rolls	
,, Salicylic, in ½ lb. packages	
Lint, Absorbent, finest, 1 lb. packages, 4 oz., 2 oz., and 1 oz. boxes	
,, ,, Surgeon's	
,, Boric, 1 lb. packages, 8 oz., 4 oz., and 2 oz. boxes	4
,, Iodoform, 10 per cent.	223
,, Marine, 1 lb. tins	315
,, Styptic	182
Lotion, Boric Acid, saturated	4
,, Carbolic Acid, 1 in 20	9
,, Sublimate, 1 in 500	206
Macintosh, Waterproof Sheeting, 44 in. wide	10
Moss (Sphagnum), loose	351
,, ,, compressed into sheets, thin	351
,, ,, ,, ,, ,, thick	351
Nainsook Muslin, for Ointments	
Oil, Carbolised, 1 in 10, or 20	9
,, ,, non-congealing, for Catheters	9
Oiled Silk	
,, Non-adhesive (French)	
,, Brown	
Oiled Silk Protective	10
Ovariotomy Aprons	
Pads, Obstetric, Alembroth	
Piline, Impermeable	
,, Spongio	
Plasters, Spread.	
Adhesive, on unglazed Calico, yd. rolls	
,, ,, Union	
,, ,, Moleskin	
,, ,, Tapes, unglazed Calico, Holland, Silk, and Waterproof	

		PAGE
Plasters, *continued.*		
India Rubber Adhesive, 7 in. wide, yd. rolls		...
,, ,, ,, ,, ,, 5 yd. rolls		...
,, ,, ,, Porous, yd. rolls ...		...
,, ,, ,, Twilled Linen, yd. rolls		...
,, ,, ,, Tapes, ½ in., 1 in., 1½ in., 2 in., and 3 in. ...		...
Isinglass on Muslin, 7 in. wide, yd. rolls ...		...
,, ,, ,, 11 in. wide, 5 yd. rolls ...		...
,, ,, Silk, Flesh, White, and Black, yd. rolls		
,, ,, Gold Beaters' Skin, 6 in. wide, yd. rolls		
Plaster Mulls, Unna's.		
Acidi Pyrogallici,	42 per cent.	24
,, Salicylici,	38 ,, ...	27
,, ,,	50 ,, ...	27
Acidi Salicylici Creasoti	20 ,, 40 ,, ...	27
Acidi Salicylici Creasoti	24 ,, 48 ,, ...	27
Acidi Salicylici Creasoti	29 ,, 49 ,, ...	27
Acidi Salicylici Ext. Cannab. Ind.	60 ,, 15 ,, ...	27
Belladonnæ Ext.	30 ,, ...	74
Chrysarobini	18 ,, ...	110
,,	45 ,, ...	110
Hydrargyri	65 ,, ...	203
Hydrargyri Acidi Carbolici	58 ,, 20 ,, ...	203
Hydrargyri Acid Carbolici Hydrarg. Perchlor. Zinci Oxidi	30 ,, 15 ,, 3 ,, 15 ,, ...	
Hydrargyri Zinci Oxidi	35 ,, 35 ,, ...	203
Hydrargyri Ammon.	50 ,, ...	203
Iodoformi	50 ,, ...	223
Resorcin	50 ,, ...	335
Salve Mulls, Unna's.		
Acidi Borici, 1 side	20 per cent.	6
,, ,, 2 sides	10 ,, ...	6
Emp. Plumbi Acidi Carbolici	10 ,, ...	11
Zinci Oxidi, 1 side	20 ,, ...	380
,, ,, 2 sides	10 ,, ...	380
Zinci Oxidi Hydrargyri	20 ,, 5 ,, ...	
Zinci Oxidi Ichthyol	20 ,, 4 ,, ...	380
Zinci Oxidi Hydrarg. Ox. Rub.	20 ,, 10 ,, ...	380
Sawdust, Eucalyptus		174
Silk Ligatures, Carbolised, reels		9
,, Salicylic, ½ lb. boxes		27
Soap, Superfatted		...
,, ,, Ichthyol		...
Sponges, Carbolised (to order)		...
,, Gamgee's		...

PAGE
Spray Apparatus for Disinfectants, Perfume and Medicated Solutions ... ...
,, ,, for Cocaine Solutions ... ...
Stypes, for holding Tampons ... ...
Sublimate Lotiforms, for making lotions 205
Sublimate Pastils, ,, ... 206
Tampons, for applying Chloride of Methyl 251
Tenax, Carded Oakum, 1 lb. packages 315
Tow, Flax, (about) ½ lb. rolls ... ...
,, ,, Carbolised, ½ lb. packages 10
,, Jute (see above) ... ...
Wood Wool, in 1 lb. bags 313
,, ,, Diapers, for Menstruation 313
,, ,, Felt, for Wound Dressing ... ...
,, ,, Sheets, for Accouchement 313
,, ,, Vaccination Pads ... ...
,, ,, Wadding, for Wound Dressing 313
Wool, Prepared Cotton, finest, 1 lb. packages, 1 oz., 2 oz., and 4 oz. boxes 198
,, Absorbent, 1 lb. packages, 1 oz., 2 oz., and 4 oz. boxes 193
,, ,, Alembroth, 2 per cent., 1 lb. packages 207
,, ,, Boric Acid, 1 lb. packages 199
,, ,, Carbolised, 5 per cent., 1 lb. packages 10
,, ,, Eucalyptus, 5 per cent., 1 lb. and ½ lb. packages 174
,, ,, Iodised, 6 per cent., 1 lb. packages ... 228
,, ,, Iodoform, 10 and 50 per cent., 1 lb., ½ lb., and ¼ lb. packages 223
,, ,, Salicylic Acid, 4 and 10 per cent., 1 lb. packages... 27
,, ,, Styptic, 1 lb. and ½ lb. packages ... 182
,, Fir, Wadding, in sheets 312

II.

HISTOLOGICAL PREPARATIONS FOR STAINING, HARDENING, AND MOUNTING MICROSCOPIC OBJECTS.

- Acid. Acetic.
  - ,, Carbolic. Puriss. No. 1.
  - ,, Chromic.
  - ,, Formic Fort.
  - ,, Osmic, gramme tubes.
  - ,, ,, Solution, 1 per cent.
  - ,, *Picric, Solution, Aqueous, 1 per cent.
  - ,, Picric, Solution, Alcoholic, 6 per cent.
- Agar Agar.
- Alcannin.
- Alcohol Absolute, S.G. ·795.
  - ,, Meth. Fort.
- Alizarine Paste, 20 per cent.
- Ammonium Chromate.
  - ,, Bichromate.
- Aniline, Liquid (Phenylamine)
  - ,, Chloride.
  - ,, Sulphate.

Aniline Colours—

- Acid. Rosolic.
- Auramine.
- Benzoazurine.
- Black, Brilliant.
  - ,, Blue.
  - ,, Raven.
  - ,, Violet.
- Bleu de Lyon.
- Blue, China.
  - ,, Hofmann's.
  - ,, Methylene.
  - ,, Nicholson's.
  - ,, Opal.
  - ,, Pure Soluble.
- Brown, Bismarck.
- Chrysoidine.
- Citronine.
- Coralline.
- Eosine.
- Flamingo.
- Fuchsine.
  - ,, Acid.
- Green, Acid.

Aniline Colours—*contd.*

- Green, Iodine.
- Green Malachite.
  - ,, Methyl.
- Magenta (Roseine).
- Nigrosine.
- Orange.
  - ,, Methyl.
- Phosphine.
- Phloxine.
- Ponceau.
- Primrose.
- Purple (Spiller's).
- Red, Congo.
  - ,, Insoluble in Water.
- Rhodamine.
- Rosaniline Acetate.
  - ,, Hydrochlorate.
  - ,, Nitrate.
- Roseine (Magenta).
- Rubine.
- Safranine.
- Scarlet, Atlas.
- Sloeline (Blue Black).
- Tropæoline O O.
- Vesuvine.
- Violet, Methyl Dahlia.
  - ,, ,, Gentian.
  - ,, ,, 5 B.
  - ,, ,, 6 B.

Aniline Staining Solutions—

- Solution of Blue, Methylene.
  - ,, Borofuchsine.
  - ,, Brown, Bism'k.
  - ,, Chrysoidine (Saturated).
  - ,, Eosine.
  - ,, Green, Iodine.
- Solution of Magenta.

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* As Picric Acid is now placed under the Explosives Act, 1875, it is only allowed to be stored in solution.

Aniline Staining Solutions—*contd.*
,, Magenta and Aniline for Bacilli (Ehrlich-Weigert's).
,, Magenta, Methylene Blue, and Aniline (Gibb's double)
,, Nigrosine.
,, Purple (Spiller's).
,, Safranine, (Alcoholic).
,, Sloeline.
,, Vesuvine.
,, Violet, Methyl.
Asphalt Solution.
Benzene, Genuine Purified.
Cacao Butter.
Canada Balsam.
,, ,, dried.
,, ,, dried and dissolved in Xylol, with dropper.
,, ,, dried and dissolved in Chlorof'm, with dropper.
Carmine.
,, Glycerine.
,, Solution (Beale's).
,, Alum Solution (Grenacher's).
,, Borax Solution (Grenacher's).
Chloroform, Meth. Purif.
Creasote, Anhydrous.
,, and Shellac Cem'nt.
Celloidin.
,, Solution.
Collodion, double strength.
Cochineal, Alum. Liquid.
Cyanin.
Dammar Varnish, with dropper.
Ether, Methylated ·730.
,, ,, Purif. ·720
Glycerine, Pure Distilled.
,, Jelly.
Gelatine, French, G'ld Label.
Gold Chloride, 15-grain tubes.
,, Size.
Hæmatoxylin.
,, Solution (Grenacher's).
,, ,, (Ehrlich's).
,, Lithium Solution (Weigert's).
,, Solution (Kleinenberg's Alcoholic).
Hollis' Glue.
Indigo Carmine.
Logwood Staining Solution (Aqueous).
,, Extract, Pure.
,, ,, Liquid.
Mayer's Pepsin Solution.
Methyl-Chloride, in kilo. cylinders.
Mounting Solution (Farrant's).
Millon's Reagent (Mercuric-Nitrate Solution).
Müller's Fluid.
Oil of Cedar Wood.
,, Cloves, Pale.
,, Lavender, Pure French.
,, Origanum (Colourless).
,, Turpentine (Rectified).
Paraffin Wax, 100°, 110°, 120°, 135°.
Pasteur's Fluid, with or without sugar.
Peptone, Pale Brown.
,, Pure White.
Phloroglucin.
Picrocarmine Solution.
Potassium Chromate.
,, Bichromate.
Prussian Blue, Soluble.
Purpurine.
Silver Nitrate, Cryst.
Toluol.
Vanillin.
Xylol.
Zeihl's Double Stain, for Tubercle Bacillus.
Zinc Cement.
Zinc Iodo-Chloride (Schulz's Solution).

INDEX

AND

POSOLOGICAL TABLE.

THIS index includes not only the name and adult dose of each drug and preparation described in the foregoing pages, but also those of official drugs and preparations to which a dose is assigned by the British Pharmacopœia.

The official names are printed in italics. Where no number of the page is inserted, the drug or preparation is not elsewhere mentioned. Lists of Formulæ for **Bougies, Granular Effervescent Preparations, Hypodermic Injections, Pessaries, Pills, Suppositories, Lozenges, Hypodermic Lamels, Ophthalmic Discs, and Plaster and Salve Mulls** are added in alphabetical order.

NAME.	DOSE.	PAGE
Abbreviations		vi
Abies Canadensis		382
Abrus Precatorius		1
Absolute Phenol	1 to 3 gr.	8
Absorbent Powders		240
A.C.E.		104
Acetanilide, *syn.* Antifebrin	4 to 15 gr.	119
Acetic Ether	20 to 60 m.	43
Acetic Liquor of Ergot	10 to 60 m.	169
Aceto-phenone, *syn.* Hypnone	1⅓ to 5 m.	116
Acet-phenetidin, *syn.* Phenacetin	4 to 15 gr.	126
Acetum Cantharidis, 1 in 10		94
,, Ipecacuanhæ	5 to 40 m.	231
,, *Scillæ*	15 to 40 m.	
Acetyl-phenyl-hydrazin	½ to 3 gr. daily	125
Achyranthes Aspera		382
Acidulated Brine Test		365
Acidum Aceticum	5 to 15 m.	
,, *Aceticum Dilutum*	1 to 2 dr.	
,, *Aceticum Glaciale*	2 to 5 m.	
,, Agaricum	1-12 to 1-6 gr.	46
,, Alphatoluicum	1 to 3 gr.	117
,, *Arseniosum*	1-60 to 1-12 gr.	62

	Name.	Dose.	Page
Acidum	*Benzoicum*	3 to 15 gr.	1
,,	Boracicum, *syn.*	5 to 30 gr.	4
,,	*Boricum*	5 to 30 gr.	4
,,	Carbazoticum	¼ to 2 gr.	23
,,	*Carbolicum*	1 to 3 gr.	7
,,	*Carbolicum Liquefactum*	1 to 4 m.	8
,,	Carbolicum (Synthetical)		7
,,	Carbo-naphtholicum		262
,,	Catharticum	4 to 8 gr.	166
,,	Chloraceticum		16
,,	*Chromicum*		16
,,	Chrysophanicum	1-6 to ½ gr. or more.	107
,,	*Citricum*	10 to 30 gr.	
,,	Di-Iodo-Salicylicum		226
,,	Di-Thio-Salicylicum		29
,,	Fluoricum Dilutum	15 to 60 m.	18
,,	*Gallicum*	2 to 10 gr. or more.	
,,	Gynocardicum	½ to 3 gr.	277
,,	Hippuricum		3
,,	Homotoluicum	1 to 3 gr.	117
,,	*Hydrobromicum Dilutum*	20 to 60 m.	17
,,	*Hydrochloricum*	2 to 10 m.	
,,	*Hydrochloricum Dilutum*	10 to 30 m.	
,,	Hydrocinnamicum	1 to 3 gr.	117
,,	*Hydrocyanicum Dilutum*	2 to 8 m.	
,,	Hydrocyanicum (Scheele) B.P.C.	1 to 4 m.	
,,	Hydrofluoricum Dilutum	15 to 60 m.	18
,,	Hypophosphorosum	2 to 5 m.	299
,,	Iodo-Salicylicum		226
,,	*Lacticum*	5 to 20 m.	19
,,	*Lacticum Dilutum*	30 to 120 m.	19
,,	Laricicum	1-12 to 1-6 gr.	46
,,	Naphthol-Carbonicum		262
,,	*Meconicum*		21
,,	*Nitricum*	2 to 6 m.	
,,	*Nitricum Dilutum*	10 to 30 m.	
,,	*Nitrohydrochloricum Dilutum*	5 to 20 m.	
,,	*Oleicum*		271
,,	Orthoxyphenyl-Sulphurosum		15
,,	Osmicum, sol. 1 per cent.	2 to 10 m. daily	22
,,	Oxynaphthoicum		262
,,	Phenicum	1 to 3 gr.	7
,,	Phenylaceticum	1 to 3 gr.	117
,,	Phenylpropionicum	1 to 3 gr.	117
,,	*Phosphoricum Concentratum*	2 to 5 m.	22

Name.	Dose.	Page
Acidum Phosphoricum Dilutum	10 to 30 m.	23
,, Picricum	¼ to 2 gr.	23
,, Pyrogallicum	½ to 1½ gr.	24
,, *Salicylicum*	5 to 30 gr. or more.	25
,, Scleroticum	½ to ¾ gr.	170
,, Sozolicum		15
,, *Sulphuricum*	1 to 3 m.	
,, *Sulphuricum Aromaticum*	5 to 30 m.	166
,, *Sulphuricum Dilutum*	5 to 30 m.	
,, *Sulphurosum*	30 to 60 m.	34
,, *Tannicum*	2 to 10 gr.	
,, *Tartaricum*	10 to 30 gr.	
,, Trichloraceticum		16
,, Trichlorphenicum		15
,, Trinitrophenicum	¼ to 2 gr.	23
Aconite Leaves and Root		36
Aconitina	1-240 to 1-60 gr.	36
Aconitinæ Oleatum, 1 in 50		37
Aconitine	1-240 to 1-60 gr.	36
Aconitum Ferox		382
,, Fischeri		382
,, Heterophyllum	5 to 20 gr.	382
,, Japonicum		382
,, Lycoctonum		382
Aconitum Napellus		36
Actæa Racemosa		110
Adeps Lanæ		241
Adepsine		285
Adonidin	¼ to ½ gr.	382
Adonis Vernalis	3 to 6 gr.	382
Æsculin		385
Æther	20 to 60 m.	40
,, *Aceticus*	20 to 60 m.	43
,, Phosphoratus	1 to 10 m.	294
,, *Purus*		41
,, *Sulphuricus*	20 to 60 m.	40
Æthyl Bromidum		44
,, Iodidum		44
,, Nitris		43
Agar-Agar		383
Agaric Acid	1-12 to 1-6 gr.	46
Agaricin	1-12 to 1-6 gr.	46
Agaricus albus	10 to 30 gr.	45
,, Muscarius		260
Aghara		332
Agnine		241

NAME.	DOSE.	PAGE
Aix-les-Bains Water (Artificial)		87
Albumen, Tests for		365
Alcohol Ethylicum		46
Aldehydum Dilutum		47
Alder (Black), Bark of		336
Alembroth Gauze and Wool		207
,, Salt		207
Alkaloids of Cinchona		114
Aloe Barbadensis, or *Socotrina*	2 to 6 gr.	48
Aloin	1 to 4 gr.	48
Alphatoluic Acid	1 to 3 gr.	117
Alstonia Constricta		383
,, Scholaris		383
Althein	1 to 2 gr.	64
Alum, Ammonium	10 to 20 gr.	49
,, Iron	3 to 10 gr.	189
,, *Potassium*	10 to 20 gr.	49
Alumen Exsiccatum		49
Aluminii Acetas		49
Amanita Muscaria		260
American Indian Hemp		58
Ammoniacum	10 to 20 gr.	
Ammonii Benzoas	10 to 30 gr.	2
,, Bicarbonas	3 to 10 gr.	50
,, *Bromidum*	2 to 20 gr.	50
,, Carbazotas	1-8 to 1½ gr.	23
,, *Carbonas*	3 to 10 gr.	51
,, *Chloridum*	5 to 20 gr.	51
,, Fluoridum	1-24 to 1-8 gr.	18
,, Hypophosphis	1 to 6 gr.	299
,, Iodidum	3 to 20 gr.	51
,, *Nitras*		51
,, *Phosphas*	5 to 20 gr.	51
,, Picras	1-8 to 1½ gr.	23
,, Sulpho-ichthyolas	10 to 30 gr. daily	218
Ammonio-Ferric Alum	3 to 10 gr.	189
Amycos		5
Amyl Colloid		149
,, Hydride		149
,, *Nitris*	½ to 1 m. by mouth 2 to 5 m. inhaled	53
Amyleni Hydras	30 to 80 m.	55
Amyli Iodidum	½ to 4 drs.	230
Anacardium Occidentale		56
,, Officinarum		56
Analgesine, *syn.* Antipyrin	4 to 30 gr.	120

Name.	Dose.	Page
Anamirtin...		306
Andira Inermis ...	20 to 30 gr.	381
Anemonin	1-60 to 1-12 gr.	323
Aniline ...		118
,, Colours ...		395
Anodyne Colloid...		149
,, Vesicant		95
Anthemidis Flores		56
Anthoxanthum Odoratum		57,155
Anthrarobin		119
Antifebrin ...	4 to 15 gr.	119
Antifungin		7
Antimonii Chloridum ...		57
,, *Oxidum*	1 to 4 gr.	
Antimonium Sulphuratum	1 to 5 gr.	
,, *Tartaratum*	Diaphoretic, 1-16 to 1-6 gr. Depressent, 1-6 to 1 gr. Emetic ...... 1 to 2 gr.	
Antipyrin ...	4 to 30 gr.	120
,, Granular Effervescent	1 dr. or more	121
Antiseptic Applications		391
Antiseptic Ozonic Ointment ...		213
Antithermin	8 gr.	123
Antrophores		127
Apiol	3 to 6 m.	57
Apocynin (Extractive) ...	½ to 1 gr.	58
Apocynum		58
Apomorphinæ Hydrochloras ...	1-16 to ¼ gr. by mouth 1-25 to 1-6 hypoderm.	59
Aqua Anisi	½ to 1 oz.	
,, *Aurantii Floris*	½ to 2 dr.	
,, *Camphoræ* ...	½ to 2 oz.	89
,, *Carui*	½ to 2 oz.	
,, *Chloroformi*	½ to 2 oz.	106
,, *Cinnamomi* ...	2 dr. to 1 oz.	
,, *Fœniculi*	½ to 2 oz.	
,, *Laurocerasi*	½ to 2 dr.	
,, *Menthæ Piperitæ* ...	½ to 2 oz.	
,, *Menthæ Viridis* ...	½ to 2 oz.	
,, Picis	5 to 10 oz.	315
,, *Pimentæ*	½ to 2 oz.	
,, *Rosæ*	1 to 2 oz.	
,, *Sambuci*		
Araroba ...		107
Arbor Vitæ		370
Arbutin ...	15 gr.	383

NAME.	DOSE.	PAGE
Argenti et Potassii Nitras		61
,, Injectio Hypodormica	2 to 10 m.	61
,, *Nitras*	1-6 to 1-3 gr.	61
,, *Oxidum*	½ to 2 gr.	
Ari Succus	1 dr.	338
Aristol		225
Arsenic, White	1-60 to 1-12 gr.	62
Arsenical Cigarettes		320
Arsenii Iodidum	1-30 gr.	63
Arsenious Acid	1-60 to 1-12 gr.	62
Arsenium		62
Arum Maculatum		388
Asafœtida	5 to 20 gr.	
Asclepias Incarnata		383
,, Cornuti		383
,, Syriaca		383
,, Tuberosa		383
Aseptin Amycos		5
Aseptol		15
Asparagin	1 to 2 gr.	64
Aspidosamine		325
Aspidospermatine		325
Aspidospermine		325
,, Sulphate		325
Asthma Pastilles and Powders		320
Atis Root		382
Atropina	1-120 to 1-60 or 1-16 gr.	64
Atropinæ Oleatum, 1 in 40		67
,, Salicylas	1-120 to 1-40 or 1-16 gr.	66
,, Santonas	1-120 to 1-40 gr.	66
,, *Sulphas*	1-120 to 1-40 or 1-16 gr.	66
,, Valerianas	1-120 to 1-40 or 1-16 gr.	66
Atropine	1-120 to 1-60 or 1-16 gr.	64
Auri Bromidum	1-60 to 1-5 gr.	71
Auri et Sodii Chloridum	1-30 to ½ gr.	71
Bactericide, Mercuric		206
Balls of Absorbent Wool		198
Balsamum Gurjunæ	½ to 2 dr.	72
,, *Peruvianum*	10 to 15 m.	
,, *Tolutanum*	10 to 20 gr.	
Bandages		391
,, Silicated		349
Bapkins of Wood Wool		313
Baptisin	1 to 5 gr.	72
Barbaloin	1 to 4 gr.	48
Barium Sulphide		88

NAME.	DOSE.	PAGE
Bebceru Bark		72
Beberine, Hydrochlorate of	1 to 10 gr.	73
,, *Sulphate of*	1 to 10 gr.	72
Beech Tar		316
Beef, Essence of		179
,, Peptonised, Jelly of		281
,, Tea, Concentrated		179
Belladonna Leaves	1 to 5 gr.	73
,, *Root*	1 to 5 gr.	73
Benger's Liquor Pancreaticus	1 to 2 dr.	280
,, Liquor Pepticus	1 to 2 dr.	291
Benzanilide	3 to 12 gr.	123
Benzoic Acid	3 to 15 gr.	1
,, Sulphinide, *syn.* Saccharin		339
Benzoyl-Ecgonine		132
,, -Sulphonic-Imide, *syn.* Saccharin		339
Berberina	2 to 5 gr.	211
Betol	3 to 8 gr.	263
Bikh		382
Bile Test		367
Birch Tar		316
Bish		382
Bismuth Hair Dye		77
Bismuthi Carbonas	5 to 20 gr.	76
,, *Citras*	2 to 5 gr.	76
,, *et Ammonii Citras*	2 to 5 gr.	76
,, *Oxidum*	5 to 15 gr.	77
,, Oxychloridum	5 to 20 gr.	77
,, Oxyiodidum	5 to 10 gr.	78
,, Salicylas	5 to 20 gr.	78
,, *Subnitras*	5 to 20 gr.	78
Bismuthum Peptonatum	80 gr.	78
Bismuthum Purificatum		76
Black Alder		336
,, Cohosh		110
,, Snakeroot		110
Bladder Wrack		189
Blatta Orientalis	2 to 8 gr.	383
Bliss' Cure		320
Blistering Liquid		95
Blood, Desiccated		179
Blood root		341
Blue Gum Tree		173
Bogbean		250
Bog-Moss		351
Boldin		383

NAME.	DOSE.	PAGE
Boldoa Fragrans		383
Boletus Laricis	10 to 30 gr.	45
Bonducella		383
Bonduc Seeds	10 to 15 gr.	383
Bonjean's Ergotin	1 to 3 gr.	167
Boracic Acid	5 to 15 gr.	4
Borax	5 to 40 gr.	
Boric Acid	5 to 15 gr.	4
Boroglyceride		7
Bougies, Nasal, see Buginaria		
Bougies, Urethral, Elastic, Gelatin (dip in warm water) :—		
Belladonna, Alc. Ext., 1½ gr.		
Ext. Krameriæ, 1 gr.		
Tannic Acid, 1 gr.		
Thalline, 1 gr. and 2 gr.		127
Zinc Acetate, ½ gr. and 1 gr.		
Zinc Chloride, ¼ gr. Belladonna, Alc. Ext. 1 gr.		
Zinc Sulphate, ½ gr. and 1 gr.		
Zinc Sulphate, ½ gr. Belladonna, Alc. Ext., 1 gr.		
Zinc Sulphate, 1 gr. Belladonna, Alc. Ext., 1 gr.		
Zinc Sulphate, 1 gr. Ext. Opium, 1 gr.		
Zinc Sulphocarbolate, ½ gr.		
Bougies, Urethral, with Cacao Butter (dip in Catheter Oil) :—		
Belladonna, Ext. Root, ¼ gr.		
Betol		263
Bismuth Oxychloride, 10 gr.		
Cocaina	½ gr.	133
Eucalyptus Oil, 10 m.		
Iodoform, 5 gr.		
Iodoform, 5 grs. Eucalyptus Oil, 10 m.		222
Lead Acetate, ½ gr., ¾ gr., and 1 gr.		
Tannic Acid, 1 gr.		
Zinc Chloride, ¼ gr. and ½ gr.		
Zinc Sulphate, ½ gr. and 1 gr.		
Brand's Meat Preparations		179
Brine Test, Acidulated		365
Bromal Hydrate	2 to 5 gr.	79
Bromide of Ammonium	2 to 20 gr.	50
,, of Ethyl		44
,, of Iron	3 to 10 gr.	180
,, of Lithium	5 to 15 gr.	243
,, *of Potassium*	5 to 30 gr.	
,, *of Sodium*	10 to 30 gr.	341
,, of Zinc	3 to 10 gr.	378
,, Hydric		17
Bromidia	½ to 1 dr.	100

NAME.	DOSE.	PAGE
Bromine, tubes of	... ...	347
Bromoform	5 to 20 drops	79
Brucine	1-12 to ½ gr.	79
Bryonia	... ...	80
Buckbean	... ...	250
Bugiuaria.—Nasal Bougies, Elastic Gelatin, 2¼in. long.		
Buginarium Acidi Carbolici	½ gr.	
,, Cocainæ Hydrochloratis ...	...1-6 gr.	135
,, Cupri Sulphatis ...	1-10 gr. and 1-6 gr.	
,, Iodoformi	1-6 gr. and ½ gr.	222
,, Zinci Sulphatis	1-10 gr.	
Bullocks, Dried Blood of	... ...	179
Burnett's Disinfecting Fluid	... ...	378
Butcher's Broom Tar	... ...	316
Butter of Antimony	... ...	57
Butyl-Chloral Hydras	... 2 to 15 gr.	80
Byne	... ...	245
Cabbage Tree	... ...	381
Cachets	... ...	311
,, of Antipyrin	... 5 to 20 gr.	121
Cactus Grandiflorus	... ...	383
Cæsalpinia Bonducella	... ...	383
Caffeina	½ to 5 gr. or more.	81
Caffeinæ Ammonio-Citras	... 1 to 10 gr.	82
,, *Citras*	½ to 5 gr. or more.	82
,, ,, Effervescens	1 dr. or more.	82
,, ,, Cum Potassii Bromido Effervescens ...	1 dr. or more.	82
,, Hydrobromas... ...	½ to 5 gr. or more.	82
,, ,, Effervescens	1 dr. or more.	82
,, Sodio-Salicylas	... 1 to 4 gr.	83
,, Sulphas	...½ to 5 gr.	83
,, Tri-Iodidum	... 2 to 4 gr.	83
,, Valerianas	...½ to 3 gr.	83
Calabar Bean	... 1 to 4 gr.	302
Calamina Præparata	... ...	240
Calcii Carbonas præcipitata	10 to 60 gr.	
,, *Chloridum*	10 to 20 gr.	85
,, Hippuras	5 to 20 gr.	3
,, *Hypophosphis*	... 1 to 6 gr.	299
,, Lactas	... 1 to 5 gr.	19
,, Permanganas	... ...	322
,, *Phosphas*	10 to 20 gr.	
,, *Sulphas*	... ...	
,, *Sulphidum*	1-10 to 1 gr.	86
Calendula	... ...	86

NAME.	DOSE.	PAGE
Calisaya Bark	10 to 60 gr.	112
Calomel	½ to 5 gr.	
Calumbæ Radix	10 to 20 gr.	
Calx Sulphurata	1-10 to 1 gr.	86
Cambogia	1 to 4 gr.	
Camphor	1 to 10 gr.	89
Camphor Ball		89
,, Essential Oil of		89
Camphora	1 to 10 gr.	89
,, Monobromata	2 to 10 gr.	91
,, Salicylata	1 to 5 gr.	92
Camphorated Carbolic Acid		8
,, Chalk		90
Canadian Hemp		58
Cannabis Indica		92
Cannabina	1 to 5 gr. daily	93
Cannabin Tannas	2 to 10 gr.	93
Cannabinon	¼ to 1 gr.	94
Cantharides		94
Cantharidin		94
Cantharis	1-16 to ½ gr.	94
Canton's Phosphorus		86
Capparis Coriacea		388
Capsaicin		95
Capsicin	1-8 to ¼ gr.	96
Capsicum Fruit	½ to 1 gr.	95
Capsules, Empty Gelatine		312
Capsules of Ammonium-Ichthyol, 4 gr.		218
,, of Amyl Nitrite, 1, 2, 3, and 5 m.		53
,, of Amylene Hydrate, 10 m.		55
,, of Bromide of Ethyl, 5 m.		44
,, of Bromine, 1 and 4 c.c.		347
,, of Carbolic Acid, 60 m.		10
,, of Cascara Sagrada		336
,, of Cascara and Euonymin		336
,, of Chloroform, 10 m.		104
,, of Fehling's Solution, 1 c.c.		365
,, of Hypnone, ¾ m.		117
,, of Iodide of Ethyl, 5 m.		45
,, of Jatropha Oil, 10 m.		385
,, of Lithium-Ichthyol, 4 gr.		218
,, of { β-Naphthol Bismuth Salicylate }	2 gr. 1 gr.	
,, of Oil of Gaultheria, 10 m.		26
,, of Paraldehyde, 3 m.		47
,, of Santal Oil, 10 m.		279

Name.	Dose.	Page
Capsules of Terebene	5 m.	362
Carbasus Acidi Carbolici		9
,, Eucalypti		174
,, Thymol		371
Carbazotic Acid	¼ to 2 gr.	23
Carbo Animalis	20 to 60 gr.	
Carbo Ligni	20 to 60 gr.	
Carbolated Camphor		8
Carbolic Acid	1 to 3 gr.	7
,, Acid Gauze		9
,, Acid Soap		11
,, Dressing		12
,, Oil		9
Carbolised Iodine Solution		9
,, Silk		9
,, Tow		10
,, Wool		10
Carbon, Tetrachloride of		97
Carbonaphtholic Acid		262
Carlsbad Salt, Artificial		350
Carmine		97
,, Glycerine of		97
Carnis Extractum		179
Caroba		385
Casca Bark		170
Cascara Amarga		338
,, Capsules		336
,, *Sagrada*		336
Cashew Nut		56
Catechu	10 to 30 gr.	
Catgut Ligatures		9, 16
Cathartic Acid	4 to 8 gr.	166
Catheter Oil		9
Caulophyllin	1 to 4 gr.	98
Caustic, Mitigated		61
,, *Toughened*		61
Celloidin		150
Cerasin	1 to 5 gr.	323
Ceresin, a paraffin		284
Ceratum Calaminæ		241
,, Cocainæ, 1 in 30		133
,, Petrolei		287
Cereolus Iodoformi, 5 gr. of Eucalypti, 10 m.		222
Cerevisiæ Fermentum	½ to 1 oz.	
Cerii Oxalas	1 to 2 gr.	
Chalk, Camphorated		90

NAME.	DOSE.	PAGE
Chamomile Flowers		56
Charta Epispastica		94
Charta Nitrata		320
Chartazinc		276
Chaulmoogra Oil	2 to 15 gr.	277
Chaulmoogra Ointment		278
Chekan		383
Chemical Food	1 dr.	187
Chewstick, Jamaica		385
Chian Turpentine	5 to 10 gr.	363
Chinese Oil of Peppermint		250
Chinoidinum	1 to 5 gr.	334
Chinolini Salicylas	5 to 15 gr.	124
,, Tartras	5 to 15 gr.	124
Chinolinum	3 to 10 m.	124
Chloracetic Acid		16
Chloral Hydras	5 to 30 gr.	98
,, cum Camphorâ		100
,, cum Menthol		100
,, cum Phenol		100
,, cum Thymol		100
Chloralamide	20 to 50 gr.	101
Chloralum		50
Chloramyl		105
Chlori Gargarisma		345
Chloric Ether, syn. Spt. chloroformi	5 to 60 m.	106
Chloride of Methyl		251
Chloride of Zinc		378
Chlorodyne	5 to 20 m.	106
Chloroform and Cocaine Anæsthesia		140
,, Capsules of		104
Chloroformum	1 to 10 m.	101
,, Aconiti, 1 in 1		37
,, Belladonnæ, 1 in 1		73
,, Camphoratum, 2 in 3		106
Chlorogenine		383
Chloromorphiæ Liquor	5 to 20 m.	106
Chrisma		285
Chromic Acid		16
Chromic Catgut Ligatures		16
Chrysarobinum	1-6 to ½ gr. or more.	107
Chrysarobinum Purum		108
Chrysophanic Acid	1-6 to 2 gr. or more.	108
Cicutine	½ gr. increased	151
Cigarettes, Arsenical		320
Cimicifugæ Rhizoma		110

Name.	Dose.	Page
Cimicifugin	1 to 6 gr.	110
Cimolite		239
Cina		342
Cinchonamine		112
Cinchonæ Calisayæ Cortex	5 to 60 gr.	111
,, *officinalis Cortex*	5 to 60 gr.	111
,, *Rubræ Cortex*	5 to 60 gr.	113
,, *Succirubræ Cortex*		113
Cinchonidinæ Salicylas	1 to 10 gr.	115
,, *Sulphas*	1 to 10 gr.	114
Cinchoninæ Hydrochloras	1½ to 10 gr.	116
,, *Sulphas*	1½ to 10 gr.	116
Cinchonine	1 to 10 gr.	115
Clemens' Solution	1 to 5 m.	62
Clubmoss Spores		245
Coal Tar Derivatives		116
,, ,, Solutions		116
Coating Pills		310
Coca	30 to 120 gr.	128
Cocaina cum Oleo, 2 per cent.		133
Cocainæ Citras	1-5 to 1 gr.	134
,, Hydrobromas	1-20 to 1 gr.	134
,, *Hydrochloras*	1-6 to 1 gr.	134
,, Saccharis	1-5 to 1 gr.	136
,, Salicylas	1-5 to 1 gr.	136
Cocaine	1-8 to 1 gr.	131
Cocculin		306
Cocculus Indicus		306
Cockroach		383
Cod Liver Oil		278
,, ,, ,, Emulsion	2 to 8 dr.	278
,, ,, ,, ,, with Hypophosphites		278
,, ,, ,, Phosphorated	1 to 4 dr.	295
Codeina	¼ to 2 gr.	147
Codeine and Glycerine Jelly	1 dr.	147
Codeinæ Phosphas	⅓ to 2 gr.	147
Coffee		81
Cohosh, Black		110
,, Blue		93
Colchici Cormus	2 to 8 gr.	
Colchicin	1-32 to 1-16 gr.	149
Collinsonia Canadensis		384
Collodium		149
,, Callosum		150
,, Cocainæ, 2 per cent.		133
,, cum Oleo Crotonis, 1 in 8		150

NAME.	DOSE.	PAGE
Collodium cum Iodoformo, 1 in 12		222
,, *Flexile*		150
,, Ichthyol		218
,, Iodi, 30 gr. in 1 oz.		150
,, Iodol		226
,, Salicylicum		150
,, ,, et Lacticum		151
,, ,, et Hydrarg. Perchlor.		151
,, ,, cum Zinci Chlorido		150
,, Stypticum		151
,, *Vesicans*		95
,, Zinci Chloridi		151
Colloid Anodyne		149
Collunaria.—Nasal Douches:—		
Collunarium { Acidi Carbolici 4 gr. Sodii Bicarb. 12 gr. Boracis 12 gr. } in 1 oz. T.H.		
,, Acidi Tannici, 3 gr. to 1 oz. T.H.		
,, Aluminis, 4 gr. to 1 oz. T.H.		
,, Potassii Permanganatis, 1-20 gr. in 1 oz. T.H.		
,, Quininæ, ½ gr. in 1 oz. T.H.		331
,, Sodii Bicarb., 30 gr. in 1 oz. T.H.		
,, Zinci Sulphatis, ½ gr. in 1 oz. T.H.		
,, Zinci Sulphocarbolatis, 2 gr. in 1 oz. T.H.		
Colocynthidis Pulpa	2 to 8 gr.	
Compound Anæsthetic Ether		42
Compressed Tablets		360
Concentrated Beef Tea (Brand's)		179
Concentric Pills		311
Conchinin	1 to 15 gr.	326
Condurango		384
Confectio Emblicæ	1 to 4 dr.	167
,, *Opii*	10 to 20 gr.	
,, *Piperis*	60 to 120 gr.	
,, *Scammoniæ*	10 to 30 gr.	
,, *Sennæ*	60 to 120 gr.	
,, *Sulphuris*	60 to 120 gr.	359
,, *Terebinthinæ*	60 to 120 gr.	
Congo Paper		369
,, Red		369
Conina	¼ gr. increased	151
Coninæ Hydrobromas	1-3 gr. increased	151
Conine, *Syn.* Conicine	¼ gr. increased	151
Conquinine	1 to 15 gr.	326
Convallamarin	½ to 2 gr.	153
Convallaria Majalis		152
Convallarin	3 to 4 gr.	153

NAME.	DOSE.	PAGE
Copaiba	30 to 60 m.	
Corn Ergot		386
,, Silk		386
Corns, Collodions for		150
Cornus Florida	20 to 60 gr.	384
Cosmoline		285
Coster's Paste		229
Coto Cortex	1 to 8 gr.	154
Cotoin	½ to 2 gr.	154
Cotton Wool, Medicated		199
Coumarin		57, 155
Cranesbill Root		384
Cream of Tartar	20 to 60 gr. or more	
Cream, Salicylic		27
,, Zinc		289
Creasote	1 to 3 m.	155
Creasote Anhydrous	1 to 3 m.	156
,, Hydrated	1 to 3 m.	156
Creasotum	1 to 3 m.	155
Creatin	1½ gr.	178
Cremor Salicylicus		27
Cremor Zinci		289
Creolin	1 to 5 gr.	158
Cresalol		31
Cresol Salicylas		31
Creta Præparata	10 to 60 gr.	
Crotalus		384
Croton-Chloral Hydrate	2 to 15 gr.	80
Cubeba	30 to 120 gr.	
Cuca	30 to 120 gr.	128
Cucumber Ointment		159
Cucumis		158
Cuprea Bark		112
Cupreinæ Sulphas	1 to 5 gr.	112
Cupri Oleas		272
Cupri Sulphas	¼ to 2 gr.	
Cupric Test Pellets		365
Curara	1-20 to ½ gr.	159
Curarina		159
Curcas Purgans		385
Curdling Ferment		279, 200
Cure, Himrod's		320
Cusso	¼ to ½ oz.	
Cypripedin	1 to 3 gr.	160
Damiana		160
Daturina	1-120 to 1-16 gr.	161

Name.	Dose.	Page
Daturinæ Sulphas	1-120 to 1-16 gr.	161
Daturine	1-120 to 1-16 gr.	161
,, Heavy	...	65
,, Light	...	65, 161
Day's Ointment	...	213
Decoctum Achyranthis	2 oz.	382
,, *Aloes Compositum*	½ to 2 oz.	
,, *Cetrariæ*	*ad lib.*	
,, *Cinchonæ*	1 to 2 oz.	113
,, Eucalypti Gummi	2 to 4 dr.	176
,, Euphorbiæ Piluliferæ	2 oz.	178
,, *Granati Radicis*	1 to 2 oz.	
,, *Hæmatoxyli*	1 to 2 oz.	
,, *Hordei*	*ad lib.*	
,, *Papaveris*, 1 in 10	...	
,, *Pareiræ*	1 to 2 oz.	
,, *Quercus*, 1 in 16	...	
,, *Sarsæ*	2 to 10 oz.	
,, *Sarsæ Compositum*	2 to 10 oz.	
,, *Scoparii*	2 to 4 oz.	
,, *Taraxaci*	2 to 4 oz.	
,, Tritici	1 to 5 oz.	375
Deelina Oil	...	289
Delphina	¼ to ½ gr.	161
Depilatories	...	88
De Valangin's Mineral Solvent	...	62
Dialysed Iron	10 to 30 m.	184
Diapers of Wood Wool	...	313
Diastase, Malt	...	245
,, Pancreatic	...	279
Dichloride of Ethidene	...	171
Digitalein (Schmiedeberg)	1-60 to 1-30 gr.	162
Digitalin (Schmiedeberg)	...	162
Digitaline, Crystallized (Nativelle)	1-60 to 1-30 gr.	162
,, Granules (Homolle)	2 to 4	162
Digitaline Amorphe	1-60 to 1-30 gr.	162
Digitalinum	1-60 to 1-30 gr.	162
Digitalis Folia	½ to 1½ gr.	162
Digitoxin	...	162
Di-Iodo-Para-Phenol-Sulphonic Acid	...	227
,, -Salicylic Acid	...	226
Dimethyl-ethyl-carbinol	...	55
Dimethyl-oxychinizin	4 to 30 gr.	120
Discs of Atropine, 1-5000 gr. in each	...	66
Dita Bark	...	383
Ditaine	...	383

Name.	Dose.	Page
Di-thio-salicylic Acid		29
Di-thio-salicylate of Sodium	3 gr.	29
Di-thymol-iodide		225
Diuretin	15 gr.	370
Dogwood, Jamaica		314
Dolichos Soja		388
Donovan's Solution	5 to 15 m.	63
Dover's Powder (*Pulv. Ipec. Co.*)	5 to 15 gr.	
Drosera Rotundifolia		384
Duboisina		163
Duboisinæ Sulphas	1-120 to 1-30 gr.	163
Dynamite		266
Easton's Syrup	1 dr.	188
Eau de Goudron	5 to 10 oz.	315
Effervescent Salts, see, in Index, Granular.		
Elaterinum...	1-40 to 1-10 gr.	164
Elaterium	1-16 to ½ gr.	164
Elepizone	1 dr.	344
Elixir Acidum	2 to 8 m.	166
,, Bismuthi	60 m.	165
,, Camphoræ...	30 to 60 m.	90
,, Camphoræ Monobromatæ	4 dr.	91
,, Cascara Sagrada	15 to 60 m.	337
,, Cinchonæ	60 m.	165
,, Cocæ	1 to 4 dr.	129
,, Ferri, Quininæ, Strychninæ Phosphatum ...	1 dr.	188
,, Guaranæ	60 m.	200
,, Papain	1 dr. with meals	283
,, Paraldehydi	1 to 3 dr.	47
,, Phosphori	15 to 60 m.	294
,, Rubrum	20 to 60 m.	165
,, Saccharini, 3 gr. in 60 m.		341
,, Sennæ	1 to 8 dr.	166
,, Simplex	20 to 60 m.	165
,, of Vitriol	5 to 30 m.	166
Emblic Myrabolans	1 or 2	167
Emblicæ Fructus	1 or 2	167
Emetina (Alkaloid) Expectorant	$\frac{1}{300}$ to $\frac{1}{50}$, Emetic $\frac{1}{6}$ to $\frac{1}{3}$ gr.	231
Emetin (Extractive) ,,	$\frac{1}{60}$ to $\frac{1}{15}$, ,, $\frac{1}{2}$ to 1 gr.	232
Emodin		336
Emplastrum Aconiti		38
,, Aconiti et Belladonnæ...		38
,, *Belladonnæ*		74
,, Belladonnæ Extensum...		74
,, *Calefaciens*		94
,, *Cantharidis*		94

NAME.	DOSE.	PAGE
Emplastrum Capsici	... ...	96
,, Cocainæ	... ...	133
,, Hamamelidis	... ...	202
,, Hydrargyri Oleatis ...	... ...	274
,, Lithium-Ichthyol ...	... ...	219
,, *Plumbi*	... ...	
,, ,, *Iodidi*, 1 in 10 ...	... ...	
,, Rhois	... ...	338
,, Salicylicum	.. ..	27
,, Scopolæ	... ...	387
,, Thapsiæ	... ...	369
,, Unguenti Zinci (Unna's)	... ...	380
Empty Gelatine Capsules	... ...	312
Emulsio Adipis	... 1 to 3 dr.	282
,, Iodoformi	... ...	222
,, Olei Morrhuæ	... 2 to 8 dr.	278
,, ,, cum Hypophosph.	... ...	278
Emulsion of Fat	... 1 to 3 dr.	282
,, Pancreatic	... 1 to 3 dr.	281
Emulsive Ferment	... ...	279
Ergot	10 to 30 gr.	167
,, of Maize	... ...	386
Ergotinum...	... 1 to 3 gr.	167
Ergotininæ Citras	1-150 to 1-30 gr.	169
Ergotinine	1-200 to 1-40 gr.	169
Eriodictyon Glutinosum	... ...	390
Erythrophlœine	... ...	170
Erythrophlœinæ Hydrochloras ...	... ...	170
Erythrophlœum	... ...	170
Erythroxylon Coca	30 to 120 gr.	128
Eseridina..	... ...	303
Eserina	... ...	304
Eserinæ Hydrobromas	... 1-60 to 1-20	304
,, Salicylas	... 1-60 to 1-20	304
,, Sulphas	... 1-60 to 1-20	304
Essence of Beef (Brand's)	... ...	179
,, of Pancreatine	... ...	281
Essentia Anisi	10 to 20 m.	
,, *Menthæ Piperitæ*	10 to 20 m.	
Ether	20 to 60 m.	40
,, Absolute	... ...	41
,, Absolute, Methylated	... ...	41
,, *Acetic*	20 to 60 m.	43
,, Compound Anæsthetic	... ...	42
,, Methylated	... ...	41
,, Ozonic	½ to 1 dr.	212

NAME.	DOSE.	PAGE
Ether Phosphorated	1 to 10 m.	294
,, Rectified, from Methylated Spirit		41
,, Perles of	1 to 4	42
,, *Sulphuric*	20 to 60 m.	40
Ethereal Oil		43
,, Oxygen		213
Etherisation of Rectum		40
Ethidene Dichloride		171
Ethyl, Bromide of		44
,, Carbamate of	16 to 60 gr.	389
,, Chlorinated Chloride of		171
,, Iodide of		44
,, Nitrite of		43
,, ,, Solution of	10 to 60 m.	43
,, Oxide of	20 to 60 m.	40
Ethylate of Sodium, Solution of		345
Ethyl-sulphate of Sodium	¼ to 1 oz.	350
Ethylic Alcohol		46
Ethylidene, Chloride of		171
Eucalembroth Gauze		207
Eucalypti Folia	5 gr.	173
,, Gummi	2 to 6 gr.	175
,, *Oleum*		173
Eucalyptol		174
Eucalyptus Gauze		174
,, Sawdust		174
,, Wool		174
Eugenia Jambolana		385
Eugenic Acid		384
Eugenol		384
Euonymin	½ to 5 gr.	177
Eupatorium Perfoliatum	10 to 60 gr.	384
Euphorbia Pilulifera		178
Exalgin	2 to 6 gr.	124
Extract, Pond's		201
Extractum Achyranthis Liquidum	1 dr.	382
,, *Aconiti*	¼ to 1 gr.	38
,, Aconiti Radicis Alcoholicum	1-10 to 1-3 gr.	38
,, Agarici	3 to 6 gr.	46
,, *Aloes Barbadensis, or Socotrinæ*	2 to 6 gr.	
,, *Anthemidis*	2 to 10 gr.	56
,, *Belæ Liquidum*	1 dr. to 2 dr.	
,, *Belladonnæ*	¼ to 1 gr.	74
,, *Belladonnæ Alcoholicum*	1-16 to ¼ gr.	74
,, Bynes	1 to 4 dr.	246
,, *Calumbæ*	2 to 10 gr.	

NAME.	DOSE.	PAGE
Extractum Cannabis Indicæ	¼ to 1 gr.	92
,, Carnis		178
,, *Cascaræ Sagradæ*	2 to 8 gr.	337
,, *Cascaræ Sagradæ Liquidum*	10 to 60 m.	337
,, ,, ,, Insipidum	10 to 60 m.	337
,, Chekan Fluidum	½ to 3 dr.	383
,, *Cimicifugæ Liquidum*	3 to 30 m.	111
,, Cinchonæ Flavæ Liquidum	10 to 30 m.	113
,, *Cinchonæ Liquidum*	5 to 10 m.	113
,, Cocæ	5 to 15 gr.	129
,, *Cocæ Liquidum*	1 to 4 dr.	129
,, *Colchici*	½ to 2 gr.	
,, *Colchici Aceticum*	½ to 2 gr.	
,, Collinsoniæ Liquidum	15 to 60 m.	384
,, *Colocynthidis Compositum*	3 to 10 gr.	
,, Convallariæ	2 to 8 gr.	153
,, ,, Fluidum	5 to 15 m.	153
,, *Conii*	2 to 6 gr.	
,, Corn Silk, *syn.* Maidis		386
,, Coruus Fluidum, U.S.	30 to 75 m.	384
,, Coto Liquidum	2 to 6 m.	154
,, Damianæ Liquidum	1 to 2 dr.	160
,, Digitalis, U.S., semi-alcoholic	1-6 to ½ gr.	
,, ,, Fluidum, ,, ,,	1 to 20 m.	
,, *Ergotæ Liquidum*	10 to 60 m.	167
,, Erythroxyli Fluidum	½ to 2 dr.	129
,, Eucalypti Gummi Liquidum	20 to 60 m.	176
,, Euonymi Liquidum	10 to 60 m.	177
,, Eupatorii Fluidum, U.S.	10 to 60 m.	384
,, Euphorbiæ Piluliferæ	½ to 1½ gr.	178
,, *Filicis Liquidum*	15 to 30 m.	
,, *Frangulæ Liquidum*	1 to 4 dr.	336
,, Fuci Vesiculosi	3 to 8 gr.	189
,, Fuci Vesiculosi Liquidum	1 to 2 dr.	189
,, Galii	5 to 20 gr.	384
,, *Gelsemii Alcoholicum*	½ to 2 gr.	191
,, *Gentianæ*	2 to 10 gr.	
,, Geranii Maculati	15 to 60 m.	384
,, *Glycyrrhizæ*	5 to 60 gr.	197
,, *Glycyrrhizæ Liquidum*	20 to 60 m.	197
,, Grindeliæ	2 to 3 gr.	199
,, Grindeliæ Liquidum	10 to 30m.	199
,, *Hæmatoxyli*	10 to 30 gr.	
,, ,, Liquidum	½ to 1 dr.	201
,, Hamamelidis Liquidum	2 to 5m.	201
,, Hydrastis Liquidum	5 to 20 m.	209

NAME.	DOSE.	PAGE.
Extractum Hyoscyami	... 5 to 10 gr.	
,, *Jaborandi*	... 2 to 10 gr.	232
,, ,, Fluidum... ...	10 to 60 m.	231
,, *Jalapæ*	... 5 to 15 gr.	
,, Kava-Kava	... 5 to 10 gr.	386
,, ,, Liquidum ...	...15 to 60 m.	385
,, *Krameriæ*	... 5 to 20 gr.	
,, *Lactucæ*	... 5 to 15 gr.	
,, *Lupuli*...	... 5 to 15 gr.	
,, Maidis Stigmatum	20 gr.	386
,, ,, ,, Fluidum ...	1 dr.	386
,, ,, Ustilaginis Fluidum	...½ to 2 dr.	386
,, Malti	... 1 to 4 dr.	246
,, Malti Ferratum	... 1 to 4 dr.	246
,, Malti cum Oleo Morrhuæ	... 1 to 4 dr.	246
,, Menyanthis et Glycyrrhizæ Liquidum	½ oz.	251
,, *Nucis Vomicæ* ...	...1-8 to ½ or 1 gr.	272
,, *Opii*	½ to 2 gr.	
,, *Opii Liquidum*	10 to 40 m.	
,, Pancreatis (Fairchild) ...	... ...	280
,, *Papaveris*	2 to 5 gr.	
,, *Pareiræ*	10 to 30 gr.	
,, *Pareiræ Liquidum*	30 to 120 m.	
,, *Physostigmatis*	1-16 to ¼ gr.	303
,, Pini Sylvestris	... ...	313
,, Piscidiæ Erythrinæ Fluidum	20 to 120 m.	314
,, *Quassiæ*	... 3 to 5 gr.	
,, *Rhamni Frangulæ*	...15 to 60 gr.	336
,, *Rhamni Frangulæ Liquidum*	... 1 to 4 dr.	336
,, *Rhamni Purshiani*	... 2 to 8 gr.	337
,, ,, ,, *Liquidum*	...10 to 60 m.	337
,, *Rhei*	... 5 to 15 gr.	
,, Salicis Nigræ Liquidum ...	.. ½ to 1 dr.	387
,, *Sarsæ Liquidum*	... 2 to 4 dr.	
,, Scopolæ	1-8 to ½ gr.	387
,, ,, Liquidum	... 1 to 5 m.	387
,, Sethiæ Liquidum	...20 to 40 m.	388
,, Stillingiæ Fluidum	15 to 60 m.	352
,, *Stramonii*	¼ to ½ gr.	
,, *Taraxaci*	... 5 to 30 gr.	
,, *Taraxaci Liquidum*... ...	...½ to 2 dr.	
,, Tritici Liquidum	... 1 to 6 dr.	375
,, Viburni Prunifolii	... 2 to 10 gr.	389
,, ,, ,, Liquidum	10 to 30 m.	389
,, Vincæ Majoris Liquidum	... 1½ dr.	389
,, Yerbæ Santæ	...10 to 40 m.	390

Name.	Dose.	Page
Fat Emulsion	1 to 3 dr.	282
Fehling's Solution		364
,, Solution, Glass Capsules of		365
,, ,, Pellets of		365
Fel Bovinum Purificatum	5 to 10 gr.	
Ferments—Digestive		279, 282, 290
Ferri Arsenias	1-16 to ½ gr.	64
,, Bromidum	3 to 10 gr.	180
,, *Carbonas Saccharata*	5 to 30 gr.	
,, *et Ammonii Citras*	5 to 10 gr.	
,, et Ammonii Sulphas	3 to 10 gr.	189
,, *et Quininæ Citras*	5 to 10 gr.	328
,, ,, ,, Effervescens	1 dr.	328
,, et Strychninæ Citras	3 to 8 gr.	355
,, Fluoridum	$\frac{1}{20}$ to ½ gr.	18
,, Hypophosphis	1 to 5 gr.	300
,, Iodidum	1 to 5 gr.	
,, Lactas	2 to 10 gr.	19
,, Oxidum Magneticum	5 to 10 gr.	
,, Perchloridum	2 to 8 gr.	181
,, Peroxidum Humidum	2 to 4 dr.	
,, ,, *Hydratum*	5 to 30 gr.	
,, *Phosphas*	2 to 10 gr.	186
,, ,, U.S.	2 to 8 gr.	186
,, Pyrophosphas, U.S.	2 to 8 gr.	301
,, Quininæ et Strychninæ Citras	3 to 10 gr.	355
,, Salicylas	3 to 10 gr. or more.	28
,, Succinas		322
,, *Sulphas*	1 to 5 gr.	
,, *Sulphas Exsiccata*	½ to 3 gr.	
,, *Sulphas Granulata*	1 to 5 gr.	
,, Sulphocyanidum		186
Ferrier's Snuff		79
Ferro-Alumen	3 to 10 gr.	189
Ferrocyanide of Potassium Papers		367
Ferrocyanic Acid Test Pellets		366
Ferri Peptonati, Liquor	1 to 4 dr.	185
Ferrum Redactum	1 to 5 gr.	
Ferrum Tartaratum	5 to 10 gr.	
Fir Wool		312
,, Oil, and Extract		313
Fleming's Tincture of Aconite	1 to 5 m.	38
Flowers of Camphor	1 to 10 gr.	89
Fluoric Acid		18
Fluoride of Ammonium	1-24 to ⅙ gr.	18
,, Iron	1-20 to ½ gr.	18

Name.	Dose.	Page
Fluoride of Quinine	1 to 2 gr.	18
Fomentum Belladonnæ		74
Formyl, Terchloride of	1 to 10 m.	101
Fossiline		285
Fowler's Solution of Arsenic	2 to 8 m.	62
Franciscea Uniflora		386
French Chalk		240
,, Oil of Turpentine	30 m. every ½ hour	293
Fructus Emblicæ	1, 2, or more	167
Fuchsine	½ to 4 gr.	118
Fucus Vesiculosus		189
Fuller's Earth		210
Fumus Potassii Nitratis		320
Fungus Laricis		45
Galbanum	5 to 15 gr.	
Galium Aparine		334
Galla	5 to 15 gr.	
Gamboge	1 to 5 gr.	
Gargarisma Chlori		315
Gas-karal-heba		382
Gaultheriæ, Oleum	10 m.	26
Gauze, Alembroth		207
,, and Cotton Wool Tissue		207
,, Carbolic Acid		9
,, Eucalembroth		207
,, Eucalyptus		174
,, Iodoform		223
,, Mercuro-Zinc Cyanide		203
,, Thymol		371
Gelato-Glycerine		193
Gelatum Petroleum		284
Gelatum Zincum		380
Gelidium Corneum		383
Gelsemina (Alkaloid)	1-60 to 1-20 gr.	190
Gelseminæ Hydrochloras	1-60 to 1-20 gr.	190
Gelsemin (Eclectic)	½ to 2 gr.	190
Gelsemium	5 to 30 gr.	190
Geoffroya Inermis	20 to 30 gr.	384
Geoline		285
Geranin	1 to 5 gr.	384
Geranium Maculatum		384
Gingerin	¼ to 1 gr.	192
Glass, Soluble, or Water Glass		318, 349
Glonoine		266
Glycerine Jelly		193
Glycerinum	10 m. to 2 dr.	192

NAME.	DOSE.	PAGE
Glycerinum Acidi Borici, 1 in 5		4
,, *Acidi Carbolici*, 1 to 4		10
,, *Acidi Gallici*, 1 to 4		192
,, *Acidi Tannici*, 1 to 4		192
,, *Aluminis*, 1 to 5		192
,, ,, et Acidi Tannici		193
,, *Amyli*, 1 to 8		192
,, Belladonnæ		74
,, Bismuthi Nitratis, 60 gr. to 1 oz.		194
,, *Boracis*, 1 to 6		192
,, Carmini		97
,, cum Aquâ Rosæ		194
,, Ferri Dialysati	30 to 60 m.	185
,, Hydrargyri Perchloridi		205
,, Iodi		223
,, Olei Ricini, 1 in 2		194
,, Papain	1 dr. with meals	283
,, Pepsinæ Acidum	1 to 2 dr.	291
,, *Plumbi Subacetatis*		194
,, *Tragacanthæ*		373
Glycerole of Subacetate of Lead		194
Glyco-gelatine		195
Glycyrrhiza	5 to 20 gr.	197
Glycyrrhizinum Ammoniatum	½ to 5 gr.	197
Goa Powder		107
Gokhru		198
Golden Seal	10 to 30 gr.	209
Gossypium		198
,, Absorbens		198
,, Acidi Borici (50 per cent.)		199
,, Acidi Carbolici (6 per cent.)		10
,, ,, Salicylici (4 per cent.)		27
,, Camphoræ Salicylatæ (8 per cent.)		92
,, Eucalypti		174
,, Ferri Perchloridi		182
,, Iodoformi (4, 10, and 50 per cent.)		223
,, Menthol		240
Gonania Domingensis		385
Gouttes de Baumé	1 to 8 m.	271
Granular Effervescent		
Antipyrin	1 dr. or more.	121
Carlsbad Salt	,,	
Citrate of Bismuth	,,	
,, ,, Caffeine	,,	82
,, ,, ,, with Bromide of Potassium	,,	82
,, ,, Iron	,,	

NAME.	DOSE.	PAGE
Granular Effervescent		
Citrate of Iron and Quinine	1 dr. or more	320
,, ,, Lithium	,,	
,, ,, Magnesium	,,	
,, ,, Potassium	,,	
Citro-Tartrate of Sodium	,,	
Hydrobromate of Caffeine	,,	82
Phosphate of Sodium	,,	349
Pullna Salt	,,	349
Salicylic Acid	,,	27
Salicylate of Lithium	,,	244
Salicylate of Sodium	,,	29
Sodio-Magnesian Aperient	,,	349
Sulphate of Sodium	,,	349
Vichy Salt	,,	
Granules de Digitaline	2 to 4	162
,, of Hyoscyamine	1 hourly	217
Green Mountain Cure		320
Grey Oil (Mercurial)		202
Grindelia		199
Guaiacate of Lithium	5 gr.	244
Guaiacol	½ to 2 m.	158
Guarana	10 to 60 gr.	200
Guaranine	½ to 5 gr.	81, 200
Gunsberg's Test		389
Gurjun Balsam	½ to 2 dr.	72
Guttæ Atropinæ Sulphatis, R.O.H.,	1 to 4 grs. in 1 oz.	67
,, ,, cum Alumine		67
,, ,, ,, Cocaina		67
,, ,, ,, Zinco		67
,, Daturinæ, 2 gr. in 1 oz.		161
,, Duboisinæ Sulphatis		163
,, Eserinæ, R.O.H., 2 gr. in 1 oz.		304
,, Homatropinæ		70
,, Physostigminæ		304
,, ,, Fortiores		304
,, Pilocarpinæ, 2 gr. in 1 oz.		235
,, Zinci Chloridi		378
,, ,, ,, cum Cocaina		378
Gynocardia Odorata		277
Gypsum		210
Hæmatoxylin		201
Hæmatoxylum		201
Hair Dye of Bismuth		77
,, ,, of Hydrogen Peroxide		211
,, ,, of Potassium Permanganate		321
,, ,, of Silver Nitrate		61

Name.	Dose.	Page
Haller's Acid Elixir	2 to 8 m.	166
Hamamelidin, *syn.* Hamamelin	½ to 2 gr.	201
Hamamelis		201
Hartmann's Wood Wool		313
Haustus Santonini et Olei Ricini		342
Hazeline		201
Heberden's Ink	1 to 2 oz.	114
Heim's Pills, see Pilulæ.		
Heicnin	1-3 to 2 gr.	220
Hellebore, Green	1 to 5 gr.	375
Hemlock Pitch Bark		382
Henna		385
Himrod's Cure for Asthma		320
Histological Preparations		395
Hoffman's Anodyne		43
Homatropinæ Hydrobromas	1-120 to 1-20 gr.	70
,, Hydrochloras	1-120 to 1-20 gr.	70
,, Salicylas	1-120 to 1-20 gr.	70
Homatropine		70
Homolle's Granules of Digitalin		162
Homotoluic Acid	1 to 3 gr.	117
Huile de Cade		316
Huxham's Tincture of Bark	½ to 2 dr.	114
Hydracetin	½ to 3 gr. daily	125
Hydramyl		149
Hydramyl Ether		42
Hydrargyri Bichloridum = Perchloridum	1-16 to 1-8 gr.	205
,, Carbolas	½ to 2 gr.	203
,, Chloridum = Subchloridum	½ to 5 gr.	
,, Chloridum Corrosivum, U.S. = Perchloridum.		205
,, Chloridum Mite, U.S. = Subchloridum.		
,, Cyanidum	1-20 to 1-6 gr.	203
,, et Potassii Iodidum	1-16 to 1-4 gr.	204
,, Imido-succinas		207
,, *Iodidum Rubrum*	1-32 to 1-8 gr.	204
,, ,, Viride	1-6 to 1 or 3 gr.	204
,, Lanolinum		242
,, Naphthol-Acetas	¾ gr.	208
,, *Nitrico-Oxidum*	¼ to 1 gr.	
,, Oleatum, 5, 10, and 20 per cent.		273
,, ,, cum Morphina		273
,, Oleo-Palmitas		274
,, *Oxidum Flavum*		208
,, *Oxidum Rubrum*	¼ to 1 gr.	
,, *Perchloridi Liquor*	30 to 120 m.	205
,, *Perchloridum*	1-16 to 1-8 gr.	205

Name.	Dose.	Page.
Hydrargyri Pilula	... 3 to 8 gr.	
,, Salicylas	¼ gr.	207
,, *Subchloridi, Co. Pilula* ...	... 5 to 10 gr.	
,, *Subchloridum*	½ to 5 gr.	
,, Succinimidum	... ...	207
,, Tannas	... 1½ gr. thrice daily	208
,, Thymol-Acetas	... ¾ to 1½ gr.	209
Hydrargyrum	... ...	202
,, *cum Cretâ*	... 3 to 8 gr.	
,, Bijodatum, P.G.=Iodid. Rub.	... ...	204
,, Jodatum, P.G.=Iodid. Vir.	... ...	204
Hydrastina (Alkaloid)	½ to 5 gr.	209
Hydrastin (Eclectic)	... 2 to 6 gr.	210
Hydrastinæ Hydrochloras	... ½ to 6 gr.	210
Hydrastinina	... ...	210
Hydrastininæ Hydrochloras	.. ½ to 1½ gr.	210
Hydrastis	10 to 30 gr.	209
Hydrate of Amylene	... 30 to 80 m.	55
,, Benzoyl	... 3 to 15 gr.	1
,, Bromal	... 2 to 5 gr.	79
,, *Butyl-Chloral*	... 2 to 15 gr.	80
,, *Chloral*	... 5 to 30 gr.	98
Hydride of Amyl, or Hydramyl ...	... ...	149
Hydriodic Ether	... ...	41
Hydrobromic Acid, Diluted	20 to 60 m.	17
,, Ether	... ...	41
Hydrochinon	... ½ to 5 gr.	213
Hydrochloric Acid	... 2 to 10 m.	
Hydrocinnamic Acid	... 1 to 3 gr.	117
Hydrocotyle Asiatica	... 4 to 10 gr.	385
Hydrocyanic Acid, diluted	... 2 to 8 m.	
Hydrofluoric Acid	... ...	18
Hydrogen, Peroxide of	½ to 2 dr.	211
Hydronaphthol	... ...	263
Hydroquinine	... ...	112
Hydroquinone	... ½ to 5 gr.	213
Hydroxyl, Solution of	½ to 2 dr.	211
Hydroxylamine	... ...	385
,, Hydrochlorate of	... ...	385
Hygrine	... ...	132
Hymenodictyon Excelsum	... ...	385
Hyoscina	... ...	65, 214
Hyoscinæ Hydrobromas	1-300 to 1-100 gr.	214
,, Hydrochloras	1-300 to 1-100 gr.	214
,, Hydriodas	1-300 to 1-100 gr.	215
Hyoscyamina	1-120 to 1-40 gr.	65, 216

Name	Dose.	Page
Hyoscyaminæ Sulphas	1-120 to 1-40 gr.	216
Hyoscyamine	1-120 to 1-40gr.	65, 216
,, Amorphous	1-16 to 1-8 gr.	216
,, Sulphate	1-120 to 1-40 gr.	216
Hyperosmic Acid, sol. 1 per cent. ...	2 to 10 m. daily	22
Hypnone	... 1½ to 5 m.	116
Hypobromite of Sodium, Solution ...	... ...	346
Hypodermic Injections, see Index ...	... ...	425
,, ,, with Vaseline Oil ...	... ...	288
Hypodermic Lamels :—		
Apomorphine	1-10 gr.	59
Atropine	1-120 gr.	66
Caffeine	¼ gr.	83
Cocaine	¼ gr.	135
Codeine	¼ gr.	147
Curara	1-20 gr.	160
Curarine	1-400 gr.	160
Digitalin	1-100 gr.	162
Ergotin	½ gr.	168
Hyoscine...	1-200 gr.	215
Hyoscyamine	1-50 gr.	216
Morphine	¼ gr.	257
Morphine ... ... Atropine...	¼ gr. 1-120 gr.	66, 257
Morphine Tartrate	1-6 gr.	260
Morphine Tartrate ... ... Atropine...	1-6 gr. 1-100 gr.	260
Physostigmine	1-100 gr.	304
Pilocarpine	¼ gr.	236
Quinine	½ gr.	329
Sclerotinic Acid...	1-16 gr.	170
Sparteine...	1 gr.	351
Strychnine	1-60 gr.	356
Hypophosphites	... ...	298
Hypophosphorous Acid	... 2 to 5 m.	299
Hyposulphite of Sodium	10 to 60 gr.	35
Ichthyol	... ...	218
Ignatia Amara Beans	... ...	271
Indian Hemp	... ...	92
,, ,, White	... ...	383
Indigo-carmine Papers...	... ...	365
Inein	... ...	352
Infusum Abri	... ...	1
,, Adonidis Vernalis	... 4 dr.	382
,, *Anthemidis*	... 1 to 4 oz.	
,, *Aurantii*	... 1 to 2 oz.	
,, *Aurantii Compositum*	... 1 to 2 oz.	

NAME.	DOSE.	PAGE
Infusum Buchu	1 to 4 oz.	
,, *Calumbæ*	1 to 2 oz.	
,, *Caryophylli*	1 to 4 oz.	
,, *Cascarillæ*	1 to 2 oz.	
,, *Catechu*	1 to 2 oz.	
,, *Chiratæ*	1 to 2 oz.	
,, *Cinchonæ Acidum*	1 to 2 oz.	114
,, Cocæ	4 to 8 oz.	129
,, *Cuspariæ*	1 to 2 oz.	
,, *Cusso*	4 to 8 oz.	
,, *Digitalis*	¼ to ½ oz.	
,, *Ergotæ*	1 to 2 oz.	167
,, *Gentianæ Compositum*	1 to 2 oz.	
,, Gokhru	20 oz. daily.	198
,, *Jaborandi*	1 to 2 oz.	234
,, Kava-Kava	half a pint	386
,, *Krameriæ*	1 to 2 oz.	
,, *Lini*	*ad libitum.*	
,, *Lupuli*	1 to 2 oz.	
,, Malti	¼ to ½ oz.	246
,, *Maticæ*	1 to 4 oz.	
,, Menyanthis	2 to 6 oz.	251
,, *Quassiæ*	1 to 2 oz.	
,, *Rhei*	1 to 2 oz.	
,, *Rosæ Acidum*	1 to 2 oz.	
,, *Senegæ*	1 to 2 oz.	
,, *Sennæ*	1 to 2 oz.	
,, *Serpentariæ*	1 to 2 oz.	
,, *Uvæ Ursi*	1 to 2 oz.	
,, *Valerianæ*	1 to 2 oz.	
,, Vincæ Majoris	a wine-glassful	389
Ingluvin	5 to 10 gr.	220
Injectio Acidi Sclerotici Hypodermica	3 to 5 m.	170
,, Aconitinæ Hypodermica	1 to 4 m.	37
,, Antipyrin Hypodermica	8 to 30 m.	121
,, ,, et Cocainæ Hypodermica	8 to 30 m.	121
,, *Apomorphinæ Hypodermica*	2 to 8 m.	59
,, Argenti Hypodermica	2 to 10 m.	61
,, Atropinæ Hypodermica	1 to 4 m.	67
,, Caffeinæ Hypodermica	1 to 3 m.	83
,, Cocainæ Hydrochloratis Hypodermica	2 to 10 m.	136
,, Codeinæ Hypodermica	2 to 6 m.	147
,, Colchicin Hypodermica		149
,, Coninæ Hydrobromatis Hypodermica	1 to 3 m.	151
,, Cotoin Hypodermica	15 m.	154

NAME.	DOSE.	PAGE
Injectio Curare Hypodermica	1 to 6 m.	159
,, *Ergotini Hypodermica*	3 to 10 m.	168
,, Ergotinini Hypodermica	5 to 10 m.	169
,, Ferri Perchloridi, ...	... ...	152
,, Gelseminæ Hypodermica	1 to 3 m.	190
,, Homatropinæ Hypodermica ...	1 to 6 m.	70
,, Hydrargyri Hypodermica	... ...	202
,, Hydrarg. Iodidi Rub., Sodii Iodidi, *q.s.*	2 to 6 m.	204
,, Hydrargyri Oxidi Flavi	... ...	208
,, Hydrargyri Succinimidi	... ...	207
,, Hydrargyri Thymolacetatis	... ...	209
,, Hyoscinæ Hypodermica	1 to 2 m.	214
,, Hyoscyaminæ Hypodermica ...	1 to 4 m.	216
,, Iodi Hypodermica Fortissima ...	3 to 5 m.	228
,, Morphinæ Acetatis Hypodermica,	1 to 3 m.	256
,, Morphinæ et Atropinæ Hypodermica	1 to 3 m.	57
,, *Morphinæ Hypodermica*	1 to 5 m.	256
,, Morphinæ Tartratis Hypodermica	1 to 6 m.	260
,, Nitroglycerini Hypodermica ...	1 to 4 m.	267
,, Physostigmatis Hypodermica ...	3 to 12 m.	303
,, Physostigminæ Salicylatis Hypodermica	1 to 6 m.	304
,, Physostigminæ Sulphatis Hypodermica	1 to 4 m.	304
,, Pilocarpinæ Nitratis Hypodermica	2 to 6 m.	235
,, Quininæ Hydrobromatis Acidæ Hypodermica	3 to 12 m.	329
,, Quininæ Hydrochloratis Acidæ Hypodermica	3 to 12 m.	329
,, Quininæ Sulphatis Acidæ Hypodermica	4 to 18 m.	333
,, Sal-Alembroth Hypodermica ...	... ...	207
,, Strychninæ Nitratis Hypodermica	1 to 4 m.	356
,, Strychninæ Sulphatis Hypodermica	1 to 3 m.	356
Ink, Heberden's	1 to 2 oz.	114
Insufflatio Eucalypti Gummi, ¼ gr. in each	... ...	176
,, Iodoformi, 1 gr. in each	... ...	222
,, ,, Composita	... ...	222
Inula Helenium	... ...	220
Iodide of Ammonium	3 to 20 gr.	51
,, *Arsenium*	1-30 gr.	63
,, Ethyl Capsules, 5 m. in each ...	... ...	15
Iodine	... ...	227
Iodized Solution, Carbolised	... ...	9
,, Starch	½ to 4 dr.	230

Name.	Dose.	Page
Iodized Starch, Paste of		230
,, Wool		228
,, Phenol		10
Iodoform	½ to 3 gr.	220
,, and Eucalyptus Bougies		222
,, Gauze, 10 per cent.		223
,, Lint, 10 per cent.		223
,, Pencils		223
,, Wool, 4, 10, and 50 per cent.		223
Iodoformum	½ to 3 gr.	220
,, Aromaticum	,,	221
Iodoformum Precipitatum	½ to 3 gr.	221
Iodo-Glycerine Solution, 10 gr. in 1 oz.		228
Iodo-Mercurate of Potassium, Papers of		367
,, ,, ,, Solution		366
Iodo-Vaseline		224
Iodol		226
Iodo-Salicylic Acid		226
Iodum		227
Ipecacuanha	½ to 2 gr. expectorant 15 to 30 gr. emetic.	231
Iridin (*Syn.* Irisin)	1 to 5 gr.	232
Iron Alum	3 to 10 gr.	189
,, Bromide of	3 to 10 gr.	180
,, *Dialysed*	10 to 30 m.	184
,, Perchloride of	2 to 8 gr.	181
,, *Phosphate of*	2 to 10 gr.	186
,, ,, U.S.	2 to 8 gr.	186
,, Pyrophosphate, U.S.	2 to 8 gr.	301
,, Salicylate of	3 to 10 gr.	28
Isobutyl Nitrite	2 to 5 m. inhaled	55
Jaborandi	5 to 60 gr.	233
Jacaranda Lancifoliata		385
,, Tomentosa		385
Jalapa	10 to 30 gr.	
Jalapæ Resina	2 to 5 gr.	
Jamaica Chewstick		385
,, Dogwood		314
Jambul		385
Japanese Aconite		382
,, Belladonna		387
,, Isinglass		383
,, Peppermint Oil		248
Jarisch's Ointment		24
Jasmine, Yellow		190
Jatropha Curcas		385
Jequirity Seed		1

NAME.	DOSE.	PAGE
Juglandin	2 to 5 gr.	239
Jumble Beads		1
Juniper Tar		316
Kamala	30 to 120 gr.	
Kairine	5 to 8 or 15 gr.	125
Kaladana		386
Kaolin Præparatum		239
Kava-Kava		385
Keratin Coating for Pills		311
Kieselguhr		240
Kola Nut		83
Koromiko		386
Kreosote	1 to 3 m.	155
La Bourboule Water		63
Lac Sulphuris	20 to 60 gr.	359
Lachnanthes Tinctoria		386
Lactate of Calcium	1 to 5 gr.	19
,, Iron	2 to 10 gr.	19
,, Quinine	1 to 5 gr.	330
,, Zinc	3 to 30 gr.	380
Lactic Acid	5 to 20 m.	19
,, ,, *Diluted*	30 to 120 m.	19
Lactopeptine	10 to 15 gr.	291
Ladies' Slipper		160
Lamellæ Atropinæ	1-5000 gr.	66
,, *Cocainæ Hydrochloratis*	1-200 gr.	136
,, *Physostigminæ*	1-1000 gr.	304
Lanolin Cream		242
,, Ointment		242
Lanolinum		241
,, Anhydricum		241
,, Hydrargyri		242
Lapis Calaminaris Præparatus		240
,, Divinus		50
Larch Agaric	10 to 30 gr.	45
Laricic Acid	1-12 to 1-6 gr.	46
Lawsonia Inermis		385
Leptandrin	¼ to 2 gr.	243
Levico Water, mild and strong	½ oz.	63
Liebig's Extract of Beef		178
Liebreich's Pepsin-Essenz	1 to 2 dr.	291
Ligatures, Carbolised		9
Light Atropine		65
Lily of the Valley		152
Linctus Morphinæ	60 m.	259

Name.	Dose.	Page
Linimentum Aconiti		38
,, *Ammoniæ*		51
,, Atropinæ, 1 in 120		67
,, *Belladonnæ*		75
,, Belladonnæ Compositum		75
,, Capsici		96
,, *Chloroformi*, 1 in 2		106
,, Crinale		94
,, Hydrargyri Oleatis c. Morphina		273
,, *Iodi*, 1 in 8		227
,, Menthol		249
,, Opii Ammoniatum		52
,, Scopolæ		387
Lint, Marine		315
Linteum Acidi Borici		4
,, Ferri Perchloridi		182
,, Iodoformi		223
Lipanin		272
Liquor Acidi Chromici, 1 to 3		16
,, ,, Osmici, 1 per cent.	2 to 10 m.	22
,, ,, Picrici	½ to 3 dr.	23
,, Acidus Halleri	2 to 8 m.	166
,, Æthyl Nitritis	10 to 60 m.	43
,, Aluminii Acetici		49
,, ,, Chloridi		50
,, *Ammoniæ*	10 to 20 m.	52
,, ,, *Fortior*	3 to 6 m.	52
,, Ammoniæ Fortissimus		52
,, *Ammonii Acetatis*	2 to 6 dr.	52
,, ,, *Acetatis Fortior*	25 to 75 m.	52
,, ,, *Citratis*	2 to 6 dr.	52
,, ,, *Citratis Fortior*	½ to 1½ dr.	52
,, *Antimonii Chloridi*		57
,, Antisepticus		158
,, *Arsenicalis*	2 to 8 m.	62
,, Arsenici Bromatus	1 to 5 m.	62
,, ,, *Hydrochloricus*	2 to 8 m.	62
,, *Arsenii et Hydrargyri Iodidi*	5 to 15 m.	63
,, Atropinæ Salicylatis		66
,, ,, *Sulphatis*, 1 per cent.	1 to 4 m.	67
,, *Bismuthi et Ammonii Citratis*	30 to 60 m.	76
,, Bromi Arsenitis (Clemens)	1 to 5 m.	62
,, *Calcii Chloridi*	15 to 50 m.	85
,, *Calcis*	1 to 4 oz.	
,, ,, *Saccharatus*	15 to 60 m.	
,, Carbonis Detergens		116

Name.	Dose.	Page
Liquor Carmini, 40 gr. to 1 oz.		98
,, *Chlori*	10 to 20 m.	
,, Chloromorphiæ	5 to 20 m.	106
,, Cocci		98
,, Cocainæ Hydrochloratis, 4 and 20 per cent.		136
,, *Epispasticus*		95
,, Ergotæ Aceticus	10 to 60 m.	169
,, ,, Ammoniatus	10 to 60 m.	169
,, *Ferri Acetatis*	5 to 30 m.	186
,, ,, ,, *Fortior*	1 to 8 m.	186
,, ,, Albuminati	1 to 4 dr.	185
,, ,, Chloroxidi	10 to 30 m.	183
,, ,, *Dialysatus*	10 to 30 m.	184
,, ,, Hypophosphitis Compositus	½ to 2 dr.	300
,, ,, ,, Fortis	10 to 30 m.	300
,, ,, Peptonati	1 to 4 dr.	185
,, ,, *Perchloridi*	10 to 30 m.	181
,, ,, ,, *Fortior*	2 to 8 m.	181
,, ,, *Pernitratis*	10 to 40 m.	
,, Gelseminæ Hydrochloratis, 1 in 60		190
,, *Hydrargyri Perchloridi*	½ to 2 dr.	205
,, Hyoscinæ Hydrobromatis	3 to 15 m.	214
,, Hypophosphitum Compositus	½ to 2 dr.	300
,, *Iodi*	5 to 30 m.	227
,, Jaborandi (Ext. Fluid)	10 to 60 m.	234
,, *Lithiæ Effervescens*	5 to 10 oz.	
,, Magnesii Boratis		7
,, ,, *Carbonatis*	1 to 2 oz.	
,, ,, *Citratis*	5 to 10 oz.	
,, *Morphinæ Acetatis*, 1 per cent.	10 to 60 m.	257
,, ,, *Bimeconatis* ,,	5 to 40 m.	259
,, ,, *Hydrochloratis* ,,	10 to 60 m.	258
,, ,, Sulphatis ,,	60 m.	259
,, Nitroglycerini	½ to 2 m. or more	267
,, Pancreaticus	1 to 2 dr.	280
,, Pepticus	1 to 2 dr.	291
,, Picis Carbonis		116
,, ,, ,, et Ligni		116
,, ,, Ligni		116
,, Picrotoxini Aceticus	2 to 12 m.	306
,, Plumbi Lactatis		195
,, *Potassæ*	15 to 60 m.	
,, Potassæ Arsenitis	3 to 8 m.	62
,, *Potassii Permanganatis*	2 to 4 dr.	320
,, *Sodæ*	10 to 30 m.	
,, ,, *Chlorinatæ*	10 to 20 m.	

NAME.	DOSE.	PAGE
Liquor Sodii Arseniatis	5 to 10 m.	64
,, ,, Carbolatis		14
,, ,, *Ethylatis*		345
,, Stillingiæ Compositus	1 to 4 dr.	352
,, *Strychninæ Hydrochloratis*	4 to 10 m.	355
,, Thymol, 1 in 800		371
,, *Zinci Chloridi*, 4 m. = 3 gr.		378
Liquorice		197
,, *Compound Powder of*	10 to 60 gr.	197
,, Indian		1
Lithii Benzoas	2 to 10 gr.	243
,, Bromidum	5 to 15 gr.	243
,, *Carbonas*	3 to 6 gr.	243
,, *Citras*	5 to 10 gr.	243
,, ,, Effervescens	1 to 2 dr.	244
,, Guaiacas	2 to 5 gr.	244
,, Hippuras	5 to 20 gr.	244
,, Salicylas	5 to 20 gr.	244
,, ,, Effervescens	1 to 2 dr.	244
,, Sulpho-Ichthyolas	10 to 30 gr. daily	218
Logwood		201
London Paste		346
Lotiforms of Sublimated Wool		205
Lotio Acidi Benzoici		2
,, ,, Borici		4
,, ,, Carbolici		9
,, Calaminæ		241
,, Calcis Sulphurati		88
,, Hamamelidis		202
,, *Hydrargyri Flava*		205
,, ,, *Nigra*, Calomel 3 gr. to Lime Water 1 oz.		
,, Perchloridi		205
,, Pilocarpinæ (for the hair)		236
,, Plumbi cum Lacto		195
,, Rubra		381
,, Sulphatum		381
Lugol's Solution	5 to 10 m.	227
Lunar Caustic		61
,, *Mitigated*		61
,, *Toughened*		61
Lund's Oil		9
Lupulin	2 to 5 gr.	244
Lupulini, Tinctura	10 to 60 m.	244
Lycaconitine		382
Lycoperdon Giganteum		386
Lycopodium		215

NAME.	DOSE.	PAGE
Lytta	1-16 to ½ gr.	94
Macintosh Sheeting	... ...	10
Magendie's Solution of Morphine,	16 in 1 oz. gr. ...	259
Magenta	½ to 4 gr.	118
Magnesia Levis	10 to 60 gr.	
,, *Ponderosa*	10 to 60 gr.	
Magnesii Boras	... ...	7
,, *Carbonas Levis*	10 to 60 gr.	
,, *Carbonas Ponderosa*	10 to 60 gr.	
,, *Sulphas*	... 1 to 4 dr.	
Maidis Stigmata	... ...	386
,, Ustilago	... ...	336
Malti Pulvis	... 1 to 2 dr.	245
Malto-Viburnin	... 1 to 4 dr.	389
Malto-Yerbine	... 1 to 4 dr.	390
Maltum	... ...	245
Manaca	... ...	386
Mandragora Officinalis	... ...	283
Manganesii Hypophosphis	... 1 to 10 gr.	247
,, Oxidum Precipitatum ...	... 3 to 10 gr.	247
,, Phosphas	... 1 to 5 gr.	247
,, Sulphas	2 to 10 gr. or more	247
Manganesium	... ...	247
Manna	1 dr. to 1 oz.	
Marigold	... ...	86
Marine Lint	... ...	315
Marking Nut	... ...	56
Marsh Trefoil	... ...	250
Mass for Pessaries	... ...	196
Mastiche	... 1 to 20 gr.	
McDade's Mixture	... 1 to 4 dr.	252
Mayer's Reagent...	... ...	369
Meat Extract	... ...	178
Meat Juice, Valentine's	... ...	179
,, Lozenges	... ...	179
Meconic Acid	... ...	21
Menispermin	... 1 to 5 gr.	247
Menstruation Diapers of Wood Wool	... ...	313
Menthol	½ to 2 gr.	248
,, cum Aconitina	... ...	249
,, Wool	... ...	249
Mentholeate	... ...	249
Menyanthes	... ...	250
Menyanthin	... ...	250
Mercuric Bactericide	... ...	206
Mercur-β-Naphthol Acetate	... ¾ gr.	208

NAME.	DOSE.	PAGE
Mercuro-Zinc Cyanide		203
,, ,, ,, Gauze		203
Mercurous Tannate	1½ gr.	208
Mercury, Nitroso-Nitrate of		367
,, *Oleate of*		273
,, ,, with Morphine		273
,, Oleo-Palmitate of		274
,, *Perchloride of*	1-16 to 1-8 gr.	205
,, ,, ,, Wood Wool		205
,, Plaster of Oleo-Palmitate		274
Metaldehyde	2 to 8 gr.	47
Methacetin	2 to 6 gr.	126
Methyl-acetanilide	2 to 6 gr.	124
Methylal	15 to 30 m.	252
Methyl Chloridum		251
Methyl-Orange		368
Methylene		253
Methysticin		385
Metrical Weights and Measures		vi.
Microscopic Reagents		395
Milk, Artificial Human		282
Milk, Peptonised		280
Millon's Reagent		367
Mistletoe	10 to 60 gr.	380
Mistura Ammoniaci	½ to 1 oz.	
,, *Amygdalæ*	1 to 2 oz.	
,, Amyl Nitritis	1 to 2 dr.	53
,, Butyl-Chloral	1 oz.	81
,, *Creasoti*	1 to 2 oz.	156
,, *Cretæ*	1 to 2 oz.	
,, Exalgin	½ to 1 oz.	124
,, Ferri Amara	1 oz.	183
,, ,, Aperiens	1 oz.	183
,, ,, *Aromatica*	1 to 2 oz.	114
,, ,, Arsenicalis	½ to 1 oz.	183
,, ,, *Composita*	1 to 2 oz.	
,, ,, Perchloridi	1 oz.	183
,, ,, Salina	1 oz.	183
,, Gentianæ	½ to 1 oz.	
,, Gentianæ Composita, P.L.	½ to 2 oz.	
{Inf. Gent. Co., 12 oz. Inf. Sennæ Co., 6 oz. Tr. Card. Co., 2 oz.}		
,, *Guaiaci*	½ to 2 oz.	
,, Guaiacol		159
,, Olei Santali	1 oz.	279
,, *Scammonii*	½ to 2 oz.	

NAME.	DOSE.	PAGE
Mistura *Sennæ Composita*	1 to 1½ gr.	
,, *Spiritus Vini Gallici*	1 to 2 oz.	
,, Terebinthinæ Chiæ	1 to 3 dr.	363
Mollinum		254
,, Hydrargyri		254
,, Potassii Iodidi		254
Momordicin	1-10 to 1-6 gr.	164
Monobrom-acetanilide	3 to 15 gr.	120
Monobromated Camphor	2 to 10 gr.	91
Monobromphenylacetamide	3 to 15 gr.	120
Monochlorethyl Chloride		171
Monophenylamine		118
Morphina	1-10 to ½ gr.	255
Morphinæ Acetas	1-8 to ½ gr.	255
,, Hydrobromas	1-8 to ½ gr.	257
,, *Hydrochloras*	1-8 to ½ gr.	258
,, Meconas	1-8 to ½ gr.	259
,, Oleatum, 1 in 60		255
,, *Sulphas*	1-8 to ½ gr.	259
,, Tartras	1-8 to ½ gr.	259
Morphine	1-10 to ½ gr.	255
Morrhuæ Oleum		278
Morrhuol		278
Moschus	5 to 10 gr.	
Mucilago Acaciæ, 2 fl. oz.=1 oz. gum	*ad libitum*.	
,, *Amyli*, 12 gr. to 1 oz.		
,, *Tragacanthæ*	1 dr. to 1 oz.	373
Mullein, Great		377
Mulls, Plaster		393
Muscarinæ Nitras	½ to ¾ gr.	260
Mynsicht's Elixir of Vitriol	3 to 10 m.	167
Myoctonine		382
Myrabolanus Emblica	1 or 2	167
Myrica Gale		383
Myricin	2 to 5 gr.	261
Myrrh	10 to 20 gr.	
Myrtol	2 to 5 m.	386
Myrtus Chekan		383
Naphthalone	2 to 10 gr.	263
,, Dichloro-		264
,, Tetrachloride	3 to 12 gr.	264
Naphthol, α- and β-		262
,, Camphor		263
,, Carbonic Acid		262
,, Mercury	¾ gr.	208
Naphthyl Alcohol	2 to 15 gr.	262

NAME.	DOSE.	PAGE
Narceina	1-8 to 1 gr.	264
Narcotina	1 to 3 gr.	265
Nasal Douches—Collunaria		
Nataloin	1 to 4 gr.	48
Nebula Acidi Lactici, 1 in 16		19
,, Ferri Perchloridi, 3 gr. in 1 oz.		182
Nectandra Rodiæi		72
Nepaul Aconite		382
Nepenthe=strength of Tr. Opii.	5 to 30 m.	
Nessler's Solution for Ammonia		368
Nicotina	1-6 to 1 gr.	265
Nitrite of Æthyl		43
,, *Amyl*	½ to 1 m. by mouth 2 to 5 m. inhaled	53
,, Isobutyl	2 to 5 m. inhaled	55
Nitroglycerine	1-200 to 1-50 gr. or more	266
,, Solution	½ to 2 m. or more	267
,, *Tablets*	1-200, 1-100, 1-50 & 1-25 gr. in each	268
Nitrometer, Allen's		53
Nitrous Ether		43, 47
,, Oxide Gas		51
Nux Vomica	1 to 5 gr.	271
Oil of Wine		42
Oil Vaseline		288
Oiled Silk Protective		10
Oleanodyne		272
Oleata		271
Oleate of Copper		272
,, *Mercury*		273
,, ,, and Morphine		273
,, *Zinc*		276, 277
Oleatum Aconitinæ, 1 gr. in 50 m.		37
,, Atropinæ, 1 in 40		67
,, Cocainæ		133
,, *Hydrargyri*, 5, 10, and 20 per cent.		273
,, ,, cum Morphina		273
,, Morphinæ, 1 gr. in 60 m.		255
,, Plumbi		274
,, Quininæ, 1 in 4		272
,, Veratrinæ, 1 in 50		376
,, *Zinci*		276
Oleic Acid		271
Oleum Æthereum		42
,, *Anethi*	1 to 3 m.	
,, *Anisi*	1 to 3 m.	
,, *Anthemidis*	2 to 5 m.	

NAME.	DOSE.	PAGE
Oleum Betulæ Pyroligneum		316
,, Cadinum		316
,, *Cajuputi*	1 to 4 m.	
,, *Carui*	1 to 5 m.	
,, *Caryophylli*	1 to 2 m.	
,, *Cinnamomi*	1 to 3 m.	
,, *Copaibæ*	5 to 20 m.	
,, *Coriandri*	1 to 5 m.	
,, *Crotonis*	1-3 to 1 m.	
,, *Cubebæ*	5 to 20 m.	
,, cum Cocaina, 2 per cent.		133
,, Deelinæ		288
,, *Eucalypti*	1 to 5 m.	173
,, Fagi Pyroligneum		316
,, Gaultheriæ	10 m.	26
,, Gynocardiæ	2 to 15 gr.	277
,, Homatropinæ		70
,, ,, cum Cocaina		70
,, *Juniperi*	3 to 5 m.	
,, ,, Pyroligneum		316
,, *Lavandulæ*	1 to 5 m.	
,, *Limonis*	1 to 5 m.	
,, *Menthæ Piperitæ*	2 to 5 m.	
,, ,, *Viridis*	2 to 5 m.	
,, *Morrhuæ*	1 to 8 dr.	278
,, ,, cum Æthere	2 dr.	12
,, ,, cum Quinina	1 to 4 dr.	272
,, ,, Phosphoratum	1 to 4 dr.	295
,, *Myristicæ Expressum*	1 to 5 m.	
,, Nitroglycerini, 1 per cent.	1 to 2 m.	268
,, *Olivæ*	¼ to 1 oz.	
,, *Phosphoratum*	1 to 4 m.	295
,, Picis Rectificatum		315
,, *Pimentæ*	1 to 5 m.	
,, Pini Pumilionis		313
,, ,, *Sylvestris*		313
,, *Ricini*	1 to 8 dr.	
,, *Rosmarini*	1 to 5 m.	
,, Rusci Pyroligneum		316
,, *Rutæ*	1 to 5 m.	
,, *Sabinæ*	1 to 5 m.	
,, *Santali*	10 to 30 m.	278
,, Staphisagriæ		161
,, *Terebinthinæ*	10 m. to 4 dr.	361
,, ,, Gallicum	30 m. every ½ hour.	293

NAME.	DOSE.	PAGE
Ophthalmic Discs :—		
Alum	1-250 gr.	49
Atropine	1-250 gr.	66
,, B.P.	1-5000 gr.	66
Borax	1-250 gr.	
Cadmium Sulphate	1-250 gr.	
Cocaine	1-100, 1-50 gr.	136
,, B.P.	1-200 gr.	136
Cocaine Atropine	1-200 gr. 1-5000 gr,	66
Cocaine Homatropine	1-200 gr. 1-5000 gr.	70
Cocaine Homatropine	1-200 gr. 1-200 gr.	70
Cocaine Physostigmine	1-200 gr. 1-1000 gr.	301
Copper Sulphate	1-250 gr.	
Daturine	1-5000 gr.	161
Duboisine	1-5000 gr.	163
Gallic Acid	1-250 gr.	
Gelsemine	1-500 gr.	190
Homatropine	1-5000 gr.	70
Hyoscine	1-500 gr.	215
Hyoscyamine	1-5000 gr.	216
Iodoform	1-1000 gr.	223
Lead Acetate	1-500 gr.	
Lead Opium	1-500 gr. 1-250 gr.	
Mercuric Chloride	1-100,000 gr.	205
Morphine	1-500 gr.	257
Morphine Atropine	1-200 gr. 1-5000 gr.	66,257
Physostigmine	1-500, 1-250 gr.	301
,, B.P.	1-1000 gr.	304
Pilocarpine	1-500 gr.	236
Potassium Nitrate	1-250 gr.	320
Silver Nitrate	1-500 gr.	62
Thymol	1-1000 gr.	371
Zinc Sulphate	1-250 gr.	381
Zinc Sulphate Opium	1-250 gr. 1-250 gr.	381
Opium	½ to 2 gr.	
Ordeal Bark		170
Orexine	3 to 9 gr.	126
Oro-nasal Inhalations		157
Orris Root		240

NAME.	DOSE.	PAGE
Orthoxyphenylsulphurous Acid		15
Osmic Acid, sol. 1 per cent.	2 to 10 m. hypod.	22
Osmium Tetroxide		21
Ouabaïn		353
Ourari	1-20 to ½ gr.	159
Oxide of Ethyl	20 to 60 m.	49
Oxychinoline-ethyl Hydrochlorate		125
Oxychloride of Bismuth	5 to 20 gr.	77
,, ,, Iron		183
,, ,, Zinc		378
Oxygen		213
,, Water		213
,, Ethereal		213
Oxyiodide of Bismuth	5 to 10 gr.	78
Oxymel	1 to 2 dr.	
,, *Scillæ*	½ to 1 dr.	
Oxymethyl-acetanilide	2 to 6 gr.	126
Oxynaphthoic Acid		262
Ozokerine		285
Ozone Papers		320
Ozonic Ether	½ to 1 dr.	212
Ozonized Innunction (Day)		213
Pagenstecker's Ointment		208
Pancreas		279
Pancreatic Diastase		279
,, Emulsion	1 to 3 dr.	281
Pancreatine	2 to 4 gr.	280
Pancreatised Farinaceous Food		282
Pansy, Wild	10 to 60 gr.	389
Papain	1 to 8 gr.	282
Papaverina	1-12 to 1-3 gr.	283
Papaw, Milk or Juice	3 to 10 gr.	283
Papayotin	1 to 8 gr.	282
Para-acet-anisidin	2 to 6 gr.	126
Para-acet-phenetidin	4 to 15 gr.	126
Paracoto Bark		155
Paracotoin	1½ to 3 gr.	155
Paraffin Ointment		284, 289
Paraffinum Durum		284
,, *Molle*		284
Paraldehyde	15 to 50 m.	47
Parrish's Chemical Food	1 dr.	187
Pasta Iodi et Amyli		230
,, Londinensis		346
,, Viennensis		346
,, Zinci Chloridi (Mid. Hosp.)		379

NAME.	DOSE.	PAGE
Pastilles, Asthmatic		320
Pastillus Acidi Borici, 2 gr. in each		4, 196
,, Acidi Carbolici, ½ gr. in each		10, 196
,, Aconiti Tincturæ, 1 m. in each		38, 196
,, Ammonii Chloridi, 2 gr. in each		196
,, Bismuthi Carbonatis, 3 gr. in each		76, 196
,, Bismuthi Carbonatis cum Morphinæ Acetate, 3 gr. and 1-40 gr.		76, 196
,, Bismuthi Carbonatis cum Potassii Chlorate, 3 and 2 gr.		196
,, Cascara Sagrada	2½ gr.	337
,, Cocæ Extracti, 2½ gr.		129, 196
,, Cocainæ Hydrochloratis, 1-20 to 2 gr. in each		136, 196
,, ,, et Morphinæ		136, 196
,, Codeinæ	1-8 gr. in each	117, 196
,, Hydrargyri Perchloridi, 1-20 gr., cum Potassii Chloratis, 3 gr.		196
,, Iodoformi, 1 gr. in each		196, 223
,, Morphinæ Acetatis, 1-40 gr. in each		196
,, Potassii Chloratis, 2 gr. in each		196
,, Sulphuris Compositus		196, 359
,, Thymol, 1-32 gr. in each		196, 371
Pastils		196
Paullinia Sorbilis		200
Pavy's Cupric Test		365
Pelletierina	3 to 6 gr.	289
Pelletierinæ Hydrobromas	5 to 8 gr.	289
,, Sulphas	5 to 8 gr.	289
,, Tannas	5 to 8 gr.	289
Pentyl Hydride, or Pentylene		119
Pepsin	2 to 5 gr.	290
,, Tablets, 3 gr. in each	1 with meals	292
,, ,, with Bismuth	,,	292
Pepsina Amylacea	5 to 15 gr.	291
,, Porci (Beale's)	2 to 5 gr.	290
,, Saccharata	5 to 15 gr.	291
Pepsin-Essenz (Liebreich's)	1 to 2 dr.	291
Peptone		291
,, Bile Test		367
,, Test Papers		367
Peptonised Beef		292
,, ,, Jelly		281
,, ,, Suppositories		292
,, Bismuth	80 gr.	78
,, Iron, Solution of	1 to 4 dr.	185
,, Milk		280

NAME.	DOSE.	PAGE
Peptonoids of Beef		292
Periodate Crystals and Powder	1 to 5 gr.	227
,, of Calcium		227
Periwinkle		389
Perles of Apiol	1 or 2	58
,, Carbolic Acid	1 or 2	10
,, Chloroform	1 or 2	106
,, Ether, 3 m. in each	1 to 4	42
,, ,, and Turpentine	1 to 4	42
,, Guaiacol, 1 m.	1 or 2	158
,, Monobromated Camphor, 2 gr.	1 to 3	91
,, Phosphorated Oil, $\frac{1}{100}$, $\frac{1}{64}$, and $\frac{1}{32}$ gr.	1 or 2	295
,, Tar	1 or 2	315
,, Quinine Sulphate	1½ gr. in each	332
Permanganates		320, 322
,, Hair Dye of		321
Perosmic Acid		21
Peroxide of Hydrogen	½ to 2 dr.	211
Pessaries, Gelatin Mass for		196
,, with Cacao Butter	15 gr. or 60 gr. in each	
Pessus Acidi Borici, 10 gr.		4
,, Acidi Tannici, 10 gr.		
,, Atropinæ, 1-20 gr.		63
,, Belladonnæ Ext. Rad., ½ and 1 gr.		75
,, Bismuthi Oxychloridi, 10 gr.		77
,, Cocainæ, ½ gr.		133
,, Coninæ, ½ m.		152
,, Iodoformi, 5 gr.		223
,, Plumbi Iodidi, 5 gr.		
,, { Plumbi Iodidi, 5 gr. Atropinæ, 1-20 gr. }		
,, Potassii Bromidi, 10 gr.		
,, ,, Iodidi, 10 gr.		
,, Zinci Oxidi, 10 gr.		
,, ,, Sulphocarbolatis, 10 gr.		
Petrolatum, U.S.P.		289
Petroleum		284
,, Cerate of		287
,, Jelly		284
,, Ointment		284, 289
,, Spirit		149
Peumus Boldus		383
Pharbitis Nil		386
Phellandrium Aquaticum		386
Phenacetin	1 to 15 gr.	126
Phenic Acid	1 to 3 gr.	7

NAME.	DOSE.	PAGE
Phenol, Absolute	1 to 3 gr.	8
,, Iodized		10
Phenol-Mercury	½ to 2 gr.	203
Phenol Sodique		14
Phenolphthaleïn, as a Test		368
Phenyl-acetamide	4 to 15 gr.	119
Phenyl-acetic Acid	1 to 3 gr.	117
Phenyl Alcohol	1 to 3 gr.	7
Phenyl-amine, *syn.* Aniline		118
Phenyl-benzamide	3 to 12 gr.	123
Phenyl-dihydro-chinazolin	3 to 9 gr.	126
Phenyl-dimethyl-pyrazolon	4 to 30 gr.	120
Phenyl-hydrazine Hydrochlorate		365
Phenyl-hydrazin-lævulinic Acid	8 gr.	123
Phenyl-methyl Acetone	1½ to 5 m.	116
Phenyl-propionic Acid	1 to 3 gr.	117
Phloridzin, *syn.* Phlorizin		386
Phosphates, Saccharated Wheat		302
Phosphorated Cod Liver Oil	1 to 4 dr.	295
,, Oil	1 to 4 m.	295
,, Suet, 1 in 10		296
Phosphorus	1-200 to 1-30 gr.	292
,, Red, or Amorphous	1 gr. (?)	294
,, Perles	1-64 and 1-32 gr. in each	295
,, Pills		295
,, Solutions of		294
Photoxylin		150
Physostigmatis Semen	1 to 4 gr.	302
Physostigmina	1-100 to 1-50 gr.	304
Physostigminæ Hydrobromas	1-60 to 1-20 gr.	304
,, Salicylas	1-60 to 1-20 gr.	304
,, Sulphas	1-60 to 1-20 gr.	304
Phytolaccin	1 to 5 gr.	305
α-Picoline		151
Picramnia Bark		338
Picrate of Ammonium	1-8 to 1½ gr.	23
Picric Acid Test Solution		367
Picropodophyllin		317
Picrotoxin	1-120 to 1-20 gr.	306
Pigmentum Chloral et Camphoræ		100
,, Chrysarobin 1 to 9		110
,, Ferri Perchloridi Dilutum	60 gr. in 1 oz.	182
,, Ferri Perchloridi Forte	120 gr. in 1 oz.	182
,, Iodi et Olei Picis		229
,, Papain		283
,, Picrotoxini		307
,, Plumbi		194

NAME.	DOSE.	PAGE
Pills		308
,, Concentric		311
,, Gelatine-coating		310
,, Keratine-coating		311
,, Pearl-coating		310
,, Sugar-coating		310
,, Varnishing		310
Pilocarpina		235
Pilocarpinæ Hydrochloras	1-20 to ½ gr.	235
,, *Nitras*	120- to ½ gr.	235
Pilocarpine		233
Pilocarpus Pennatifolius	5 to 60 gr.	233
Pilulæ :—		
Acidi Carbolici, 2 gr.		11
Acidi Arseniosi, 1-120, 1-60, 1-50, 1-30, 1-20 gr.		
Aconiti Rad., 1-8 gr.	1 hourly	33
Aloes Barbadensis	5 to 10 gr.	
,, *et Asafœtidæ*	5 to 10 gr.	
,, *et Ferri*	5 to 10 gr.	
,, *et Myrrhæ*	5 to 10 gr.	
Ext. Aloes Bbd. 2 gr. Ext. Nucis Vom. 1-6 gr. Ext. Belladonna. ½ gr.		
Ext. Aloes Soc., 1 gr. Ext. Nucis Vom., ¼ gr. Ext. Hyoscyami, 2 gr.	1 to 2	
Ext. Aloes Soc., 1 gr. Mastich., ½ gr. S. V. R., *q.s.*	1 with dinner	
Aloes Socotrinæ	5 to 10 gr.	
Aloes Soc., 1 gr. Rhei, 1 gr. Mastich, 1 gr.	1 with dinner	
Aloin, 1-10 and 1 gr.		
Aloin, Strychninæ et Belladonnæ	1 or 2	49
Arsenii et Hydrargyri Iodidi	1 or 2	294
Asiaticæ		
Acidi Arseniosi, 1-15 gr. Pip. Nig. ¾ gr. G. Acaciæ, *q.s.*	1 or 2 daily	
Asafœtidæ Compositæ	5 to 10 gr.	
Atropinæ, 1-100 gr. and 1-80 gr.	1 at bedtime	68
Atropinæ, Quininæ, et Arsenici,	every 3 or 4 hours	68
Belladonnæ Fol., 1-10 gr.	1 hourly	
Bismuthi Subnit., 5 gr.	1 or 2 after meals	
Blaud's Ferruginous		
Butyl Chloral, 3 gr.		81

Name.	Dose.	Page
Pilulæ:—		
Butyl-Chloral Hydr., 3 gr. Gelseminæ Hydrochl., 1-200 gr.		81
Calcis Sulphuratæ, 1-10 gr., 1-6 gr., ¼ gr., ½ gr., and 1 gr.		87
Calcii Phosph., 2 gr. Ferri Phosph., 2 gr. Acid Phosph., *q.s.*	1 thrice daily	
Cambogiæ Compositæ	5 to 10 gr.	
Camphoræ		90
,, Monobromatæ, 3 gr.		91
,, Salicylatæ		92
Catharticæ Compositæ, U.S. Ext. Col. Co., 1-3 gr. P. Ext. Jalap, 1 gr. Hyd. Subchlor., 1 gr. Cambogiæ, ¼ gr.	1 or 2	
Chloral Hydratis, 5 gr.	1 to 3	99
Chloral Hydratis, 5 gr. Morphinæ Hydrochl. 1-8 gr.	1 or 2	
Cocainæ Hydrochloratis	1-5 gr.	136
Codeinæ Composita, ¼ to 2 gr.	1 thrice daily	118
Colchici Ext. Acet., ¼ gr. Opii, ¼ gr. Pil. Coloc. Co., 2 gr. Pil. Hydrarg., 1½ gr.	1 or 2	
Colocynthidis Compositæ	5 to 10 gr.	
,, *et Hyoscyami*	5 to 10 gr.	
Conii Compositæ	5 to 10 gr.	
Coninæ Hydrobromatis, 1-3 gr.		152
Creasoti, 1 in 2	2 to 6 gr.	155
Digitalis Fol., ½ gr.	1 thrice daily	
Digitalis, Opii et Quininæ (Heim's) Digitalis, ½ gr. Opii Pulv., ¼ gr. Quininæ Sulph., 1 gr. Ipecac., ¼ gr.	1 thrice daily	
Ergotinæ		167
Euonymin, 2 gr.		177
Exalgin, 3 gr.		124
Ferri Arsenicalis		63
Ferri (Bland) Ferri Sulph., 2½ gr. Pot. Carb., 2½ gr. Tragacanth, *q. s.*	3 thrice daily	
Ferri (Bland) B.P.C. Sulphate of Iron, 60 gr. Carbonate of Potassium, 36 gr. Sugar, in powder, 12 gr. Tragacanth, in powder, 4 gr. Glycerine 2½m. Distilled Water, q.s. Water is better omitted.	in 24 pills.	

NAME.	DOSE.	PAGE
Pilulæ :—		
Ferri Carbonatis	... 5 to 20 gr.	
Ferri Hypophosphitis cum Strychnina	2 or 3 daily	301
Ferri Iodidi, 1 in 3½	... 3 to 8 gr.	
Ferri, Quininæ et Strychninæ Phosph.	2 or 3 daily	183
Ferri Sulph. Exsicc., 3 gr., 5 gr., cum Syr.	2 or 3 daily	308
Ferri Redacti, 1 gr. and 2 gr. ...	... 2 or 3 daily	
Gelsemin (Extractive), ¼, ½, 1 gr.	1 at bedtime	190
Grindeliæ Ext., 3 gr.	1 thrice daily	199
Hydrargyri (1 in 3), 1 gr., 2 gr., 3 gr., 4 gr., and 5 gr.		
Pil. Hydrarg., 2½ gr. Pil. Coloc. Co., 2½ gr. ...	... 1 or 2	
Pil. Hydrarg., 1½ gr. Pil. Coloc. Co., 2 gr. Ipecac., 1-3 gr. Ext. Hyoscyam., 1 gr. ...	... 1 or 2	
Pil. Hydrarg., 2½ gr. Pil. Rhei Co., 2½ gr. ...	... 1 or 2	
Pil. Hydrarg., 3 gr. Hydr. Subchlor., 1-3 gr. Ipecac., 1-3 gr. ...	... 1 or 2	
Pil. Hydrarg., 3 gr. Opii Pulv., ¼ gr. ...	... 2 or 3 times a day	
Hydrarg. cum Creta, 1-3 gr.,	½ gr. every 1 or 2 hrs.	
Hydrarg. cum Creta ⅓ gr. Pulv. Ipecac. Co. 3 gr.	... 1 every 4 hours	
Hydrarg. cum Creta, 2 gr. Pulv. Ipecac. Co., 3 gr. ...	1 or 2	
Hydrarg. Cyanidi, 1-12 gr. and 1-10 gr.	1 twice daily	
Hydrarg. Diureticæ. *St. Mary's Hosp.*		
Pil. Hydrarg., 1 gr. Pulv. Digital, 1 gr. Pulv. Scillæ, 2 gr. ...	1 or 2	
Hydrarg. Iodidi Rub., 1-16 gr. ...	... 1 twice daily	
Hydrarg. Iodidi Rubri, ⅛ gr., et Potassii Iodidi, 4 gr.		204
Hydrarg. Iodidi Virid. ...	1-6 gr. and 1-3 gr.	204
Hydrarg. Iodidi Virid., ½ gr. Opii Pulv., ¼ gr.		
Hydrarg. Perchloridi, 1-12 gr., 1-20 gr. and 1-40 gr.		
Hydrarg. Subchloridi. ½ gr., 1 gr., 2 gr., and 3 gr.		
Hydrarg. Subchloridi Compositæ (1 in 5)	5 to 10 gr.	
Hydrarg. Subchlor., 2 gr. Opii Pulv., 1 gr. ...	... one	
Hydrarg. Subchlor., 1 gr. Opii Pulv., ¼ gr. ...	every 4 hours	
Hydrarg. Subchlor., 2 gr. Pil. Coloc. Co., 2 gr. Ext. Hyoscyami, ½ gr. ...	1 or 2 at bedtime	
Hydrargyri Tannat. ...	1½ gr. thrice daily	208

Name.	Dose.	Page
Pilulæ :—		
Hydrastin, 2 gr.	twice a day	210
Hyoscinæ Hydrobrom. 1-200 and 1-100 gr.		214
Hyoscyaminæ, 1-130 gr.	1 hourly	217
Ichthyol, Lithium- and Sodium-	4 to 12 daily	218
Iodoformi, 2 gr.	twice or thrice a day	223
Ipecacuanhæ, 1-5 gr. and ½ gr.		
Ipecac. Co. Pulv., 5 gr.	1 or 2	
Ipecacuanhæ cum Scilla	5 to 10 gr.	
Iridin, 2 gr.	at bedtime	232
Kava-Kava Ext.	1 to 4	386
Menispermin, 2 gr.	at bedtime	248
Morphinæ Hydrochl., ¼ gr.		
Nitroglycerini, 1-100 gr. and 1-50 gr.		268
Nucis Vomicæ Ext., 1-10 gr. and ¼ gr.		
Olei Crotonis, 1 m.		
Opii Pulveris, gr. ½ and gr. 1		
Orexinæ 3 gr.	1 to 3	126
Pepsin, 2 gr. and 3 gr.		290
Phosphori	2 to 4 gr.	295
Phosphori (Martindale), 1-100 gr., 1-50 gr., and 1-30 gr.	1 after meals	295
Phosphori cum Ferro	,,	296
Phosphori cum Ferro et Nuce Vomica	,,	296
Phosphori cum Ferro et Quinina	,,	297
Phosphori cum Ferro, Quinina et Strychnina	,,	297
Phosphori cum Nuce Vomica		296
Phosphori cum Quinina	,,	297
Phosphori cum Strychnina	,,	297
Physostigmatis Extracti, 1-15 gr., 1-10 gr.		303
Picis Liquidæ, 2 gr.	1 or 2	315
Picrotoxini, 1-60 gr.	at bedtime	307
Pilocarpinæ Nitratis, 1-20 gr.		236
Plumbi cum Opio (P. Opii. 1 in 8)	3 to 5 gr.	
Podophyllin, 1-30 gr., 1-20 gr., 1-15 gr., ¼ gr., ½ gr., and 1 gr.		317
Podophyllin Composita (Resin ¼ gr.)	1 or 2 at bedtime	318
Podophyllin (Resin 1-12 gr.) et Quininæ	with dinner	318
Potassii Permanganatis, 1, 2, and 3 gr.		321
Quininæ, 1 gr., 2 gr., 3 gr., and 4 gr.		331
Quininæ cum Belladonna		75
Quininæ Salicylatis, 3 gr.	every 6 hours	330
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 2 gr. Ext. Belladonnæ, 1-10 gr.	1 thrice daily	

NAME.	DOSE.	PAGE
Pilulæ :—		
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 1 gr. Ext. Cannabis Ind., ½ gr.	1 thrice daily	
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 1 gr. Ext. Cannabis Ind., ½ gr. Aloes Socotrinæ, 1-3 gr.	1 thrice daily	
Rhei Compositæ, 2½ gr., 3 gr., 4 gr. and 5 gr.	5 to 10 gr.	
Pil. Rhei Comp., 2½ gr. Ext. Taraxaci, 2½ gr.	at dinner or bedtime	
Saponis Compositæ (P. Opii, 1 in 5)	3 to 5 gr.	
Scammonii Compositæ	5 to 15 gr.	
Scillæ Compositæ	5 to 10 gr.	
Sparteinæ Sulphatis, ¼ gr.		352
Strophanthi	1 to 5	353
Strychninæ,—1-100 gr., 1-36 gr., 1-24 gr. and 1-20 gr.		354
Sulphatum	2 thrice daily	88
Terebinthinæ Chiæ, 3 gr.	2 every 4 hours	364
,, ,, et Zinci	1 to 3	364
Zinci Phosphidi, 1-6 gr.	1 thrice daily	297
,, Valerianatis, 3 gr.	,,	381
Zinci Valerianatis, 1 gr. Pil. Asafœtidæ Co., 2 gr.	1 or 2	
Pine Cure		312
Pinol		313
Pinus Pumilio		313
Pinus Sylvestris		312
Piper Methysticum		385
Piperina	1 to 10 gr.	313
Pipmenthol		249
Piscidia		314
Pitcher Plant		387
Pitayo Bark		112
Pituri		163
Pix Liquida	2 to 10 gr.	314
Plaster Mulls :—		393
Acid Pyrogallic	42 per cent.	24
,, Salicylic	38 and 50 ,,	27
,, Salicylic ,, Creasote	20, 24, and 29 ,, 40, 48, and 49 ,,	27
Acid Salicylic Ext. Cannabis Ind.	60 ,, 15 ,,	27
Belladonnæ Ext.	30 ,,	74
Chrysarobin	18 and 45 ,,	110
Hydrargyri	65 per cent.	203

NAME.	DOSE.	PAGE
Plaster Mulls:—		
Hydrargyri 58 ,, Acid. Carbolic. 20 ,,		203
Hydrargyri 30 ,, Acid. Carbolici 15 ,, Hydr. Perchlor. 3 ,, Zinci Oxidi 15 ,,		
Hydrargyri 35 ,, Zinci. Oxidi. 35 ,,		203
Hydrarg. Ammoniat. 50 ,,		203
Iodoform 50 ,,		223
Resorcin 50 ,,		335
Plaster of Lithium-Ichthyol		219
Pleurisy Root		383
Plumbi Acetas	1 to 4 gr.	
,, *Emplastrum*		274
,, Oleatum		274
,, Oleatis Unguentum		275
,, Stearas		275
,, Subacetatis Glycerinum		194
Po' de Bahia		107
Podophylli Rhizoma		317
,, *Resina*	1-30 to 1 gr.	317
Podophyllic Acid		317
Podophyllin	1-30 to 1 gr.	317
Podophyllotoxin	1-10 to 1-8 gr.	317
Po-ho-yo		250
Points of Alum		49
,, Copper Sulphate		49
,, Zinc Sulphate		381
,, ,, ,, and Alum		381
Poison Oak, or Ivy		338
Polyporus Officinalis		45
Pomegranate, Bark of Root		289
Pommade aux Concombres		159
Pond's Extract		201
Posology		x.
Potassa cum Calce		319
Potassa Sulphurata	2 to 8 gr.	
Potassii Acetas	10 to 60 gr.	
,, *Bicarbonas*	10 to 60 gr.	
,, *Bromidum*	5 to 30 gr.	
,, *Carbonas*	10 to 30 gr.	
,, *Chloras*	10 to 30 gr.	
,, *Citras*	20 to 60 gr.	
,, Citras Effervescens	1 dr.	
,, Cobalto-nitris	½ gr.	319

NAME.	DOSE.	PAGE
Potassii Cyanidum	...$\frac{1}{12}$ to $\frac{1}{4}$ gr.	319
,, Hypophosphis	... 1 to 6 gr.	321
,, *Iodidum*	... 2 to 20 gr.	
,, *Nitras*	5 to 30 gr.	320
,, Osmias	... ...	21
,, *Permanganas*	1 to 5 gr.	320
,, Phosphas	...1 to 10 gr.	322
,, Silicas	... ...	349
,, Succinas...	... 5 to 10 gr.	322
,, *Sulphas*	15 to 60 gr.	
,, *Tartras*	... 1 to 8 dr.	
,, *Tartras Acida*	20 to 60 or 240 gr.	
Potassium, Silicate of	... ...	319
Poudre Nutritive	... ...	291
Prayer Beads	... ...	1
Preface...	... ...	iii.
Preservative Solutions	... ...	11, 12
Propylamine	... ...	373
Protective, Oiled Silk	... ...	10
Prunin	... 1 to 5 gr.	323
Prunus Virginiana	... ...	322
Pseud-aconitine	... ...	36
Pseudo-Pelletierine Sulphate	... ...	289
Ptychotis Ajowan	... ...	370
Puff Ball	... ...	386
Pulsatilla	... ...	323
,, Camphor	1-60 to 1-12 gr.	323
Pulvis Antimonialis	... 10 gr.	
,, Bismuthi Compositus... ...	... ...	79
,, Bonducellæ Compositus ...	15 to 30 gr.	383
,, Boracis Compositus	... ...	96
,, *Catechu Compositus*	20 to 40 gr.	
,, Cinchoninæ Compositus ...	... 3 to 12 gr.	115
,, *Cinnamomi Compositus*	... 3 to 10 gr.	
,, Creasoti et Amyli	... ...	156
,, *Cretæ Aromaticus*	10 to 60 gr.	
,, *Cretæ Aromaticus cum Opio* ...	10 to 40 gr.	
,, *Elaterini Compositus*	1½ to 5 gr.	161
,, *Glycyrrhizæ Compositus* ...	30 to 60 gr.	197
,, Hydrargyri cum Creta et Belladonnæ	... ...	75
,, *Ipecacuanhæ Compositus* ...	... 5 to 15 gr.	
,, *Jalapæ Compositus*	20 to 60 gr.	
,, *Kino Compositus*	... 5 to 20 gr.	
,, Liquiritiæ Compositus... ...	30 to 60 gr.	197
,, Lobeliæ Compositus	... ...	320
,, *Opii Compositus*...	... 2 to 5 gr.	

NAME.	DOSE.	PAGE
Pulvis Pancreaticus Alkalinus (Benger) ...	20 gr.	282
,, Pectoralis (Kurellæ)	30 to 60 gr.	197
,, *Rhei Compositus*	20 to 60 gr.	
,, Salicylicus cum Talco, P.G., 1 in 33	... ...	27
,, *Scammonii Compositus* ...	10 to 20 gr.	
,, Seidlitz	... ...	350
,, *Tragacanthæ Compositus* ...	10 to 60 gr.	373
,, Zinci et Hydrargyri Chloridi	... ...	380
,, Zinci Oleatis	... ...	277
Pumiline	... ...	313
Punica Granatum	... ...	289
Pussy Willow	... ...	337
Pyridine	... ...	324
Pyrocatechin	... ...	213
Pyrodin	... ...	125
Pyrogallic Acid	½ to 1½ gr.	24
Pyrogallol	½ to 1½ gr.	24
Pyroxylin	... ...	149
Quebracho Bark	... ...	325
Quillaia	... ...	116, 386
Quineti Sulphas	... 1 to 5 gr. or more	328
Quinetum	... 1 to 5 gr. or more	326
Quinidina	... ...	326
Quinidinæ Sulphas	... 1 to 20 gr.	328
Quinina	... 1 to 4 gr.	327
Quininæ Arsenias...	1-8 to ½ gr.	327
,, Chloras	... 1 to 5 gr.	327
,, Citras	.. 1 to 5 gr.	328
,, Fluoridum	... 1 to 2 gr.	18
,, Hydrobromas	... 1 to 5 gr.	328
,, ,, Acida ...	½ to 2 gr. (hypod.)	323
,, *Hydrochloras*	... 1 to 10 gr.	329
,, ,, Acida ...	½ to 2 gr. (hypod.)	329
,, Iodas	... 1 to 5 gr.	329
,, Iodidum	... 1 to 5 gr.	329
,, ,, Acidum	... 1 to 4 gr	330
,, Lactas	... 1 to 5 gr.	330
,, Oleatum, 1 in 4	... ...	272
,, Phosphas	... 1 to 6 gr.	330
,, Salicylas...	... 2 to 6 gr.	330
,, *Sulphas*	... 1 to 5 gr.	330
,, ,, Acida	... 1 to 5 gr.	333
,, Sulphocarbolas...	... 1 to 6 gr.	333
,, Tannas	... 1 to 4 gr.	333
,, Valerianas	... 1 to 4 gr.	333
Quinine Acid Sulphate	... 1 to 5 gr.	333

Name.	Dose.	Page
Quinine Disulphate	1 to 5 gr.	330
,, *Sulphate*	1 to 5 gr.	330
Quinoidina	1 to 5 gr. or more	334
Quinol	½ to 5 gr.	213
Rattlesnake Poison		384
Rectal Etherisation		40
Red Gum	2 to 6 gr.	175
Remijia Purdieana		112
,, Pedunculata		112
Resina Podophylli	1-30 to 1-15 gr. frequently ¼ to 1 gr. single dose	317
Resorcin	5 to 15 or 30 gr.	334
Rhamni Frangulæ Cortex		336
,, *Purshiani Cortex*		336
Rhei Radix	2 to 20 gr.	
Rhein	1·5 to 2 gr. or more	108
Rhigolene		149
Rhus Toxicodendron		338
,, Aromatica		338
,, Glabra		338
Rosaniline, Hydrochlorate of	½ to 4 gr.	118
Roseine	½ to 4 gr.	118
Rubidium-Ammonium Bromide	5 to 30 gr.	50
Rubini's Solution of Camphor	2 to 5 m.	90
Rumicin	1 to 4 gr.	338
Sabadilla		376
Sabinæ Cacumina	4 to 10 gr.	
Saccharated Wheat Phosphates		302
Saccharin	½ to 2 gr.	339
,, Soluble	½ to 2 gr.	340
Sacred Bark		336
Safrol	20 to 30 m.	387
Sal Alembroth		207
,, Gauze		207
,, Wool		207
Sal Carolinum Factitium	20 to 60 gr.	350
Salicifrice		27
Salicinum	3 to 30 gr.	29
Salicylate of Bismuth	5 to 20 gr.	78
,, Cresol		31
,, Mercury		207
,, Camphor	1 to 5 gr.	92
,, Iron	2 to 10 gr. or more.	28
,, *Sodium*	10 to 30 gr.	28
Salicylated Camphor Wool, 8 per cent.		92
,, Collodion		150

Name.	Dose.	Page
Salicylic Acid	5 to 30 gr. or more	25
,, ,, Ointment, 1 in 30		28
,, ,, Cream, 1 in 6½		27
,, Plaster Mulls		27
,, Silk		27
,, Suet		27
,, Wool, 4 and 10 per cent.		27
Salix Nigra		387
Salol	4 to 30 gr.	30
,, cum Camphora		30
Salud		385
Salufer		348
Salve Mulls :—		393
Acidi Borici, 2 sides	10 per cent.	6
,, ,, 1 ,,	20 ,, ...	6
Emplast. Plumbi Acid. Carbolic.	10 ,, ...	11
Zinci Oxidi, 2 sides	10 ,, ...	380
,, 1 ,,	20 ,, ...	380
Zinci Oxidi Hydrargyri	20 ,, 5 ,,	
Zinci Oxidi Ichthyol	20 per cent. 4 ,, ...	380
Zinci Oxidi Hydrarg. Oxid. Rubr.	20 ,, 10 ,, ...	380
Salvo Petrolia		285
Sandal Wood Oil	10 to 30 m.	278
Sanguinaria		341
Sanguinarin	¼ to 1 gr.	341
Sanguis Bovinus Exsiccatus		179
Sanitary Wood Wool Wadding		313
Sanitas		211, 312
Santonate of Atropine		66
,, of Sodium	5 to 10 gr.	343
Santonica	10 to 60 gr.	342
Santoninoxim		343
Santoninum	2 to 6 gr.	342
Sapo Kalinus		387
,, Lanolin		242
,, Thymol		371
,, Viridis		387
Saponin		387
Sarracenia Purpurea		386
Sassy Bark		387
Scammoniæ Resina	3 to 8 gr.	170
Scammonium	5 to 10 gr.	

Name.	Dose.	Page
Schœnocaulon Officinale		376
Scilla	1 to 3 gr.	387
Scillain		387
Scillipicrin		387
Scillitoxin		387
Sclerotic Acid	½ to ¾ gr.	170
Sclerotinic Acid	½ to ¾ gr.	170
Scopola Carniolica		387
,, Japonica		387
Scopoline		387
Scotch Pine, or Fir		312
Scutellarin	1 to 5 gr.	388
Sea Wrack		189
Secale Cornutum	10 to 30 gr.	167
Secalin		373
Seidlitz Powders		350
Selenite		240
Senna	10 to 30 gr.	166
Sethia Acuminata		388
Seigesbeckia Orientalis		388
Silicate of Potassium Solution		349
,, of Sodium Solution		348
Silk, Carbolised		9
,, Salicylic		27
Silver, Nitrate of	1-6 to 1-3 gr.	61
,, *Nitrate, Mitigated*		61
,, *Nitrate, Toughened*		61
,, *Oxide of*	½ to 2 gr.	
Simulo		388
Smelling Salts, Carbolized		11
Smilax Sarsaparilla		352
Snakeroot, Black		110
Snuff of Capsicum and Borax		96
,, Menthol		219
Soap Bark		386
,, Green		387
,, of Thymol		371
Socaloin	1 to 4 gr.	48
Soda Mint Tablets		361
,, *Tartarata*	2 to 4 dr.	
Sodii Arsenias	1-16 to 1-8 gr.	61
,, Benzoas	10 to 30 gr.	2
,, *Bicarbonas*	10 to 60 gr.	
,, *Bromidum*	10 to 30 gr.	344
,, *Carbonas*	5 to 30 gr.	
Exsiccata	3 to 10 gr.	

Name.	Dose.	Page.
Sodii Chloras	10 to 30 gr.	344
,, *Chloridum*	10 to 240 gr.	
,, Citras	10 to 6 gr.	345
,, *Citro-Tartras Effervescens*	1 to 4 dr.	
,, Di-thio-salicylas	3 gr.	29
,, Ethylas		345
,, Ethyl-sulphas	¼ to 1 oz.	350
,, Fluo-silicas		346
,, Glyco-cholas		350
,, Hippuras	5 to 30 gr.	3.
,, Hypobromitis Solutio		346
,, *Hypophosphis*	1 to 10 gr.	301
,, Hyposulphis	10 to 60 gr.	35
,, *Iodidum*	3 to 10 gr.	347
,, *Nitras*	5 to 30 gr.	
,, Nitris	2 to 5 gr. increased	347
,, Permanganas		322
,, *Phosphas*	20 gr. to 1 oz.	348
,, ,, Effervescens	1 to 3 dr.	348
,, ,, Exsiccata	10 gr. to 4 dr.	348
,, *Salicylas*	10 to 30 gr.	28
,, ,, Effervescens	1 dr. or more	29
,, Santonas	5 to 10 gr.	343
,, Silicas		348
,, *Sulphas*	2 to 8 dr.	349
,, ,, Effervescens	60 gr. or more.	349
,, ,, Exsiccata	½ to 4 dr.	349
,, Sulphethylas	¼ to 1 oz.	350
,, Sulphindigotas		365
,, *Sulphis*	5 to 20 gr.	35
,, *Sulphocarbolas*	10 to 15 gr.	14
,, Sulpho-Ichthyolas	10 to 30 gr. daily	218
,, Sulphovinas	¼ to 1 oz.	350
,, Tauro-cholas	2 to 6 gr.	350
,, Thio-sulphas		35
,, *Valerianas*	1 to 5 gr.	
Sodio-Magnesii Sulphas Effervescens	60 gr. or more	349
Sodium		313
Soluble Glass for Bandages		348
Solutio Sodii Salicylatis	1 to 3 dr.	28
,, Zinci Chloridi Antiseptica		379
Solution of Coal Tar		118
,, of Ichthyol		219
,, of Potassio-Mercuric Iodide		366
Somnal	30 m.	389
Sonstadt's Solution for Testing Gems		369

Name.	Dose.	Page
Soy Bean		388
Soya Hispida		388
Sozoiodol	22 gr.	227
Sparteinæ Sulphas	½ to 1 gr.	351
Sphagnum		351
Spiritus Ætheris	30 to 90 m.	42
,, ,, *Compositus*	30 to 90 m.	42
,, ,, *Nitrosi*	½ to 2 dr.	43
,, *Ammoniæ Aromaticus*	½ to 2 dr.	52
,, ,, *Fœtidus*	½ to 2 dr.	52
,, *Armoraciæ Compositus*	1 to 2 dr.	
,, *Cajuputi*	½ to 1 dr.	
,, *Camphoræ*	10 to 30 m.	
,, Camphoræ Fortior	2 to 5 m.	90
,, *Chloroformi (Chloric Ether)*	5 to 60 m.	106
,, *Cinnamomi*	30 to 60 m.	
,, *Juniperi*	30 to 60 m.	
,, *Lavandulæ*	30 to 60 m.	
,, *Menthæ Piperitæ*	30 to 60 m.	
,, *Myristicæ*	30 to 60 m.	
,, Nucis Juglandis	1 to 4 dr.	239
,, Thymol	3 to 15 m.	371
Staining Preparations		395
Staphisagriæ Oleum		161
,, *Semina*		161
,, *Unguentum*		161
Starch and Iodine Paste		230
,, Iodized	½ to 4 dr.	230
Stavesacre Ointment		161
Stigmata Maidis		386
Stillingia		352
Stillingin	1 to 3 gr.	352
Stramonium		161, 320
Strophanthi Pilula	2 m. of Tr. in each.	353
,, Tabellæ	1 to 5	353
,, Tinctura	2 to 10 m.	353
Strophanthidin		353
Strophanthin	1-120 to 1-60 gr.	352
Strophanthus Hispidus		352
,, Kombé		352
Strychnine	1-30 to 1-12 gr.	354
Strychninæ Acetas	1-24 to 1-10 gr.	355
,, Arsenias	1-60 to 1-15 gr.	356
,, Hydrobromas	1-30 to 1-12 gr.	356
,, Nitras	1-24 to 1-10 gr.	356
,, Sulphas	1-24 to 1-10 gr.	356

Name.	Dose.	Page
Strychninæ Sulphas Acida	1-20 to 1-10 gr.	356
Styles of Boric Acid		4
Styptic Colloid		151
,, Lint		182
,, Wool		182
Sublimate Lotiforms		205
,, Pastils		206
,, Wood Wool, ½ per cent.		205, 313
Succus Alterans		352
,, Ari	1 dr.	388
,, *Belladonnæ*	2 to 15 m.	75
,, *Conii*	½ to 1 dr.	
,, Digitalis	3 to 10 m.	
,, Galii	1 to 2 dr.	384
,, *Hyoscyami*	½ to 1 dr.	
,, *Scoparii*	1 to 2 dr.	
,, *Taraxaci*	1 to 2 dr.	
Sugar Coating of Pills		310
Sugar in Urine, Tests for		364
Sulphide of Calcium	1-10 to 1 gr.	86
Sulphindigotate of Sodium		365
Sulphite of Sodium	5 to 20 gr.	35
Sulphocarbol		15
Sulphocarbolates		14
Sulpho-ichthyolate of Ammonium		218
Sulphonal	15 to 30 gr.	357
Sulphur Præcipitatum	20 to 60 gr.	359
,, *Sublimatum*	20 to 60 gr.	359
Sulphuretted Hydrogen		360
Sulphurous Acid	30 to 120 m.	34
,, Anhydride		34
Suppositories with Cacao Butter, 15 gr. in each		
,, with Gelatine Basis, 20 gr. in each		
Suppositoria Acidi Borici, 3 gr.		4
,, ,, Carbolici, 1 gr.		11
,, ,, ,, *cum Sapone*, 1 gr.		11
,, ,, *Tannici*, 3 gr.		
,, *Acidi Tannici cum Sapone*, 3 gr.		
,, Atropinæ, 1-20 gr.		
,, Belladonnæ Ext., ½ gr.		75
,, Bismuthi Oxychloridi, 10 gr.		77
,, Chloral, 5 gr.		100
,, Cocainæ, ½ gr.		133
,, Collinsoniæ		384
,, Gallæ, 5 gr.		

Name.	Dose.	Page
Suppositoria {Gallæ, 5 gr. Opii, 1 gr.}		
,, Glycerini		193
,, Hamamelin, 1 gr.		201
,, *Hydrargyri Unguenti*, 5 gr.		
,, *Iodoformi*, 1 gr., 3 gr., and 5 gr.		223
,, *Morphinæ*, ½ gr., also ¼ gr., and 1 gr.		258
,, *Morphinæ cum Sapone*, ½ gr.		258
,, Opii, 1 gr.		
,, {*Plumbi Acetatis*, 3 gr. *Opii*, 1 gr.}		
,, Santonini	3 gr., 5 gr., and 6 gr.	342
,, Zinci Oleatis	5 gr.	
,, ,, Oxidi	5 gr.	
Surgical Dressings		391
Sweet Vernal Grass		57
Sylphium, *syn.* Silphion		369
Syrupus	1 or 2 dr.	
,, Acidi Hydriodici, 1 per cent.	20 to 40 m.	230
,, Apomorphinæ Hydrochloratis	½ to 1 dr.	59
,, *Aurantii*	1 dr.	
,, *Aurantii Floris*	1 dr.	
,, Butyl Chloral	1 dr.	81
,, Calcii et Ferri Lactophosphatis	1 or 2 dr.	20
,, Calcii Lactophosphatis	1 or 2 dr.	20
,, ,, Hypophosphitis	1 to 4 dr.	299
,, ,, Manganesii et Potassii Hypophosphitum		299
,, Cascara Sagrada	1 to 4 dr.	337
,, *Chloral*	½ to 2 dr.	100
,, Codeinæ	1 dr.	148
,, Eucalypti Gummi	30 to 60 m.	176
,, Ferri Bromidi	1 dr.	180
,, Ferri Bromidi cum Quinina	1 dr.	181
,, Ferri Bromidi cum Quinina et Strychnina	1 dr.	181
,, Ferri Bromidi cum Strychnina	1 dr.	180
,, Ferri Dialysati	1 dr.	184
,, Ferri et Manganesii Phosphatum	1 dr.	187, 247
,, Ferri et Quininæ Citratis	1 dr.	328
,, Ferri et Quininæ Hydrobromatum	1 dr.	181
,, Ferri et Quininæ Iodidi	1 dr	330
,, Ferri et Strychinæ Hydrobromatum	1 dr.	180
,, Ferri Hypophosphitis	½ to 2 dr.	301
,, *Ferri Iodidi*	1 dr.	
,, *Ferri Phosphatis*	1 dr.	186
,, Ferri Phosphatis Compositus	1 dr.	187
,, Ferri, Quininæ et Strychninæ Hydrobromatum	1 dr.	181

NAME.	DOSE.	PAGE
Syrupus Ferri, Quininæ et Strychninæ Phosph.	1 dr.	188
,, *Hemidesmi*	... 1 dr.	
,, Hypophosphitum Compositus	... ½ to 2 dr.	301
,, Ipecacuanhæ Aceticus ...	... ¼ to 2 dr.	231
,, *Limonis*	... 1 dr.	
,, *Mori*	... 1 dr.	
,, *Papaveris*	... 1 dr.	
,, Picis Liquidæ	... 1 to 4 dr.	315
,, Pruni Virginianæ	... 1 to 2 dr.	322
,, *Rhei*	... 1 to 4 dr.	
,, *Rhœados*	... 1 dr.	
,, *Rosæ Gallicæ*	... 1 dr.	
,, *Scillæ*	30 to 60 m.	
,, *Sennæ*	... 1 to 4 dr.	
,, Sodii Hypophosphitis ...	... 1 to 4 dr.	301
,, Sulphatum	... 4 dr.	88
,, *Tolutanus*	... 1 dr.	
,, *Zingiberis*	... 1 dr.	
Tabellæ Antipyrin, 5 gr.		121
,, Apomorphinæ, 1-50 gr.		59
,, Caffeinæ Citratis, 1 gr.		82
,, Cocainæ, 1-20 gr.		133
,, Menthol, 1-10 gr.		249
,, *Nitroglycerini*...	... 1 or 2	268
,, ,, Compositæ		269
,, Pepsinæ, 3 gr....		292
,, ,, et Bismuthi		292
,, Saccharini, ½ gr.		341
,, Sodii Nitritis, 2½ gr.		347
,, Strophanthi, 2 m. of Tr.		353
Tablets Compressed, list of		360
Tabloids of Cocaine Hydrochlorate,	1-10 and 1-6 gr. ...	136
Talc		240
Tamarind	... 2 dr.	
Tannate of Cannabin	2 to 10 gr. increased	93
Tar	... 2 to 10 gr.	314
Tayuya		388
Tenax		315
Terchloride of Formyl...	... 1 to 10 m.	101
Terebena Pura	... 5 to 30 m.	361
Terebinthina Chia	... 5 to 10 gr.	363
Terebinthinæ Oleum	10 to 240 m.	361
Terpene Hydrate	... 2 to 6 gr.	362
Terpin Hydrate	... 2 to 6 gr.	362
Terpinol	... 1 to 5 m.	363
Test Papers for Urine		367

NAME.	DOSE.	PAGE
Test Solutions	...	364
Tetrachloride of Carbon	...	97
Tetrahydroparachinanisol	... 3 to 8 gr.	127
Tetrahydroparamethyloxychinoline	... 3 to 8 gr.	127
Tetra-iodo-pyrrhol, *syn.* Iodol	...	226
Tetronal	...10 to 20 gr.	359
Thalline	...	127
,, Sulphate	...	127
Thapsia Garganica	...	369
Theine	... ½ to 5 gr.	81
Theobromine	... 1 to 5 gr.	369
Therapeutic Index	...	468
Thiol	... 2 to 10 gr.	219
,, Liquidum	...	219
Thio-Resorcin	...	336
Thio-sulphate of Sodium	...	35
Thuja	...	370
Thymol	½ to 2 gr.	370
,, -Acetate of Mercury	...¾ to 1½ gr.	209
,, Gauze	...	371
,, Soap	...	371
,, Solution (Volckmann's)	...	371
Tinctura Aconiti	5 to 15 m., or 1 m. often	38
,, Aconiti Ferocis	1 minim hourly	382
,, Aconiti Heterophylli	...10 to 60 m.	382
,, Aconiti (Fleming)	... 1 to 5 m.	38
,, Aconiti (Turnbull)	... 1 to 5 m.	38
,, *Actææ*	15 to 60 m.	111
,, Agarici	20 to 60 m.	46
,, *Aloes*	... 1 to 2 dr.	
,, Alstoniæ Constrictæ	...½ to 2 dr.	383
,, ,, Scholaris	... 1 to 2 dr.	383
,, Anacardii	... 2 to 10 m.	56
,, Anthemidis	... 3 to 10 m.	56
,, Anthoxanthi	... 2 to 6 m.	57
,, Apis Mellificæ	... 1 m. hourly	
,, Apocyni Cannabini	... 5 to 60 m.	58
,, *Arnicæ*	...½ to 1 dr.	
,, *Asafœtidæ*	½ to 1 dr.	
,, Asclepiadis Cornuti	... 5 to 40 m.	383
,, ,, Incarnatæ	... 5 to 40 m.	383
,, ,, Tuberosæ	... 5 to 40 m.	383
,, *Aurantii*	... 1 to 2 dr.	
,, ,, *Recentis*	... 1 to 2 dr.	
,, *Belladonnæ*	... 5 to 20 m.	76
,, *Benzoini Composita*	30 to 60 m.	

NAME.	DOSE.	PAGE
Tinctura Benzoini Simplex, B.P.C. 1 in 10 S.V.R.		
,, Boldoæ	10 to 20 m.	383
,, Bryoniæ	1 to 10 m.	80
,, *Buchu*	1 to 2 dr.	
,, Cacti Grandiflori	1 to 10 m.	383
,, Calendulæ Florum	5 to 20 m.	86
,, *Calumbæ*	½ to 2 dr.	
,, *Camphoræ Composita*	15 to 60 m.	
,, *Cannabis Indicæ*	5 to 20 m.	93
,, *Cantharidis*	5 to 20 m.	94
,, *Capsici*	3 to 20 m.	96
,, Capsici Concentrata (Turnbull)		96
,, ,, Fortior, B.P.C.	1 to 3 m.	96
,, *Cardamomi Composita*	½ to 2 dr.	
,, Carminativa	2 to 10 m.	192
,, *Cascarillæ*	½ to 1 dr.	
,, *Catechu*	½ to 2 dr.	
,, *Chiratæ*	½ to 2 dr.	
,, *Chloroformi Composita*	5 to 60 m.	106
,, *Chloroformi et Morphinæ*	5 to 10 m.	107
,, *Cimicifugæ*	15 to 60 m.	111
,, *Cinchonæ Composita*	½ to 2 dr.	114
,, *Cinchonæ (Rubræ)*	½ to 2 dr.	114
,, *Cinnamomi*	½ to 2 dr.	
,, *Cocci*	as colouring	
,, Colchici Floris Recentis	10 to 30 m.	
,, *Colchici Seminum*	10 to 30 m.	
,, Collinsoniæ	½ to 2 dr.	384
,, Colocynthidis, P.G.	3 to 15 m.	
,, *Conii*	20 to 60 m.	
,, Convallariæ	5 to 30 m.	153
,, Coto	10 to 20 m.	154
,, *Croci*	as colouring	
,, *Cubebæ*	½ to 2 dr.	
,, *Digitalis*	10 to 30 m.	
,, Droseræ Rotundifoliæ	5 to 15 m.	384
,, Elaterii Composita	10 to 30 m.	164
,, *Ergotæ*	15 to 60 m.	167
,, Ergotæ Ammoniata	10 to 60 m.	170
,, Erythrophlœi	5 to 10 m.	171
,, Eucalypti Foliorum	15 to 120 m.	174
,, Eucalypti Gummi	20 to 40 m.	177
,, Euonymi	10 to 40 m.	178
,, Euphorbiæ Piluliferæ	10 to 30 m.	178
,, *Ferri Acetatis*	5 to 30 m.	186
,, ,, Muriatis	10 to 30 m.	182

NAME.	DOSE.	PAGE
Tinctura Ferri Perchloridi	10 to 30 m.	181
,, ,, Pomata	15 to 30 m.	186
,, *Gallæ*	½ to 2 dr.	
,, *Gelsemii*	5 to 20 m.	191
,, *Gentianæ Composita*	½ to 2 dr.	
,, Gossypii Radicis	1 dr.	199
,, *Guaiaci Ammoniata*	30 to 60 m.	
,, Guaranæ	30 to 60 m.	200
,, Hamamelidis	2 to 5 m.	202
,, Hydrastis	30 to 60 m.	210
,, *Hyoscyami*	30 to 60 m.	
,, Ignatiæ	3 to 20 m.	271
,, *Iodi*	5 to 20 m.	227
,, Iodi Decolorata		229
,, ,, ,, Fortior		229
,, Iodi Oleosa		229
,, Iodinei, P.E.	1 in 16	228
,, *Jaborandi*, 1 in 4	30 to 60 m.	234
,, *Jalapæ*	30 to 120 m.	
,, *Kino*	30 to 120 m.	
,, Koromiko	½ to 1 dr.	386
,, *Krameriæ*	30 to 120 m.	
,, Lachnanthis	1 to 10 m.	386
,, *Laricis*	20 to 30 m.	
,, *Lavandulæ Composita*	30 to 120 m.	
,, Laxativa	20 to 60 m.	337
,, *Limonis*	30 to 120 m.	
,, *Lobeliæ*	10 to 30 m.	
,, *Lobeliæ Ætherea*	10 to 30 m.	
,, *Lupuli*	30 to 60 m.	244
,, Lupulini	10 to 60 m.	244
,, Lycopodii	15 to 60 m.	245
,, *Myrrhæ*	30 to 60 m.	
,, *Nucis Vomicæ*	5 to 20 m.	271
,, *Opii*	10 to 30 m.	
,, *Opii Ammoniata*	30 to 60 m.	
,, *Phenol-phthalein*, as a Test		368
,, Phosphori Composita	3 to 12 m.	297
,, Phytolaccæ	3 to 10 m.	306
,, *Podophylli*	15 to 60 m.	31
,, Podophyllin (Dobell)	1 dr.	318
,, Podophyllin Ammoniata	2 to 20 m.	318
,, Pruni Virginianæ	20 to 60 m.	323
,, Pulsatillæ	1 to 5 m. increased	324
,, *Pyrethri*		
,, *Quassiæ*	30 to 120 m.	

NAME.	DOSE.	PAGE
Tinctura Quebracho	30 to 60 m.	326
,, Quillaiæ...	20 to 60 m.	387
,, *Quininæ*...	30 to 120 m.	332
,, ,, *Ammoniata*	30 to 120 m.	332
,, *Rhei*	30 to 120 m.	
,, Rhois	1 to 5 m.	338
,, Rumicis...	1 to 10 m.	339
,, *Sabinæ*	20 to 60 m.	
,, *Scillæ*	10 to 30 m.	
,, Scopolæ	5 to 30 m.	387
,, *Senegæ*	30 to 120 m.	
,, *Sennæ*	1 to 4 dr.	
,, *Serpentariæ*	30 to 120 m.	
,, *Stramonii*	10 to 30 m.	
,, Strophanthi	2 to 10 m.	353
,, *Sumbul*	10 to 30 m.	
,, Tayuyæ...	6 to 15 m. increased	388
,, Thujæ	2 to 5 m.	370
,, *Tolutana*	20 to 40 m.	
,, *Valerianæ*	30 to 120 m.	
,, ,, *Ammoniata*	½ to 1 dr.	
,, *Veratri Viridis*	5 to 20 m.	376
,, Verbasci	20 to 60 m.	377
,, Warburg's	1 to 4 dr.	332
,, *Zingiberis*	15 to 60 m.	
,, *Zingiberis Fortior*	5 to 20 m.	
Tonga	1 to 2 dr.	388
Tonka Bean		155
Tonquin Bean		155
Toughened Caustic		61
Tow, Carbolised		9
Tragacantha	2 to 10 gr.	373
Traumaticin		109
Trianosperma Ficifolia...		388
Tribulus terrestris (Gokhru)		198
Trichloracetic Acid		16, 367
Trichlorphenol		15
Trimethylamina...	20 to 60 m. of solution	373
Trimethylaminæ Hydrochloras	2 to 3 gr.	374
Trinitrine...		266
Trinitrophenic Acid	¼ to 2 gr.	23
Trional		359
Triticum Repens...		375

NAME.	DOSE.	PAGE
Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar:—		
Acidi Benzoici, S. and F., ½ gr. (Stimulant Voice Lozenge), T.H. ...	1 every 4 hours	2
Acidi Carbolici, S., 1 gr., T.H. ...	4 or 5 daily	11
,, Citrici (Acid Lemon Drops) ...	*ad libitum*	
,, *Tannici*, S., ½ gr.... ...	... 1 frequently	
,, Tannici, F. 1½ gr., T.H.	1 every 3 or 4 hours	
,, Tannici et Capsici, F. ...	... 1 frequently	
Aconiti, F., Tinct. ½ m., T.H.	1 every ½ hour	
Althææ (Pastilles de Guimauve), T.H.	*ad libitum*	
Aluminis, S., 1 gr.	1 or 2 after meals	
Ammonii Bromidi, F., 2 gr. ...	1 every 3 hours	50
,, Chloridi, F. 2 gr., T.H.	1 every 3 hours	51
Antacidi (Sir W. Roberts)		
Calcii Carbonatis Precipitatæ 3½ gr. Magnesii Carbonatis 2½ gr. Sodii Chloridi 1 gr.		
Bismuthi, S., 2 gr.	1 or 2 after meals	79
Boracis, F., 3 gr., T.H....	1 every 3 or 4 hours	
,, et Potassii Chloratis, F.	,, ,,	
Camphoræ, S.	... 1 frequently	90
Capsici, S. (and as Voice Jujubes) ...	,	
Carbonis S. (Willow Charcoal)	1 or 2 after meals	
Carnis (Meat Lozenges)	*ad libitum*	179
Catechu, F., 2 gr., T.H. ...	1 every 3 hours	
Catechu, S., 1 gr.	,,	
Cocainæ Hydrochloratis, S., 1-12 gr.	... ...	136
Codeinæ, 1-8 gr., S.	... 4 or 5 daily	148
Cubebæ, F., 3 gr., T.H....	1 every 3 or 4 hours	
Eucalypti Gummi, F., 1 gr. ...	1 after meals	177
,, Compositi, F., 1 gr.	... 4 or 5 daily	177
Ferri Redacti, S., 1 gr. ...	... 1 or 2 after meals	
Gelatini	... *ad libitum*	
Glycerini (Jujubes or Pastils)	... *ad libitum*	
Glycyrrhizæ (Pontefract Cakes or Pipes) ...	...	197
Guaiaci, F., 2 gr., T.H.... ...	... 3 to 6 daily	
Guaiaci, S., 2 gr.	... ...	
Hydrargyri Subchloridi, S., 1 gr. and 2 gr....	...	
Ipecacuanhæ, S., ¼ gr.... ...	... 4 or 5 daily	
Ipecacuanhæ, S., 1 gr.	... 2 or 3 daily	
Kino, F., 2 gr., T.H. ...	1 every 3 or 4 hours	
Kramericæ, F., Ext. 3 gr., T.H.	1 ,, ,, ,,	
Lactucæ, F., Ext., 1 gr., T.H.	1 ,, 1 or 2 ,,	
Lavandulæ, S.	... *ad libitum*	
Menthæ Piperitæ	... ,, ,,	
,, ,, Fortior ...	... ,, ,,	

NAME.	DOSE.	PAGE
Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar :—		
Morphinæ, S., 1-36 gr.	4 or 5 daily	258
Morphinæ, F., 1-36 gr.	,, ,, ,,	258
Morphinæ, 1-36 gr., *et Ipecacuanhæ*, 1-12 gr., S. (and F., unofficial)	4 or 5 daily	258
Morphinæ 1-40 gr., & Emetin, 1-80 gr., S.	,, ,, ,,	232
Moschi, S.	*ad libitum*	
Nitroglycerini, 1-200 gr., 1-100 gr., 1-75 gr. 1-50 gr., 1-25 gr.		268
Opii S., Ext. 1-10 gr. (and Liquorice),	2 to 6 daily	
Papain, ½ gr.		283
,, cum Cocaine		283
Paregoric, S.	2 to 6 daily	
Potassii Chloratis, S., 5 gr.	3 to 6 daily	
,, Chloratis, S. (Codex), 3 gr.	3 ,, 6 ,,	
,, Chloratis, F., 3 gr., T.H.	3 ,, 6 ,,	
,, Citratis, F., 3 gr., T.H.	3 ,, 6 ,,	
,, Nitratis, S., 3 gr.	3 ,, 6 ,,	
,, Tartratis Acidæ, F., 3 gr., T.H.	3 ,, 6 ,,	
Pyrethri, F., 1 gr., T.H.	3 ,, 6 ,,	
Rhamni Frangulæ (Aperient Fruit Lozenges)	1 to 2	336
Rhei Zingiberis et Cardamomi (Digestive Tablets)	1 or 2 after meals	
Ribis Nigri (Fruit Lozenges)	*ad libitum*	
Rosæ, S.	,, ,,	
Santonini, S., 1 gr.	1 or 2 at bedtime	342
Sedative, F., Ext. Opii 1-10 gr., T.H.	3 to 6 daily	
Sodii Bicarbonatis, S., 5 gr.	1 or 2 after meals	
,, et Zingiberis, S.	1 or 2 ,, ,,	
,, Chloratis, F. and S., 3 gr.,	3 to 6 daily	345
Sulphuris Compositi		359
Tolutani, S.	*ad libitum*	
Zingiberis, S.	,, ,,	
Tropæoline OO		368
Tropic Acid		65
Tropine		65
Trypsin		279
Turnbull's Tincture of Aconite	1 to 5 m.	38
Turner's Cerate		241
Turpentine, Oil of	10 m. to 4 dr.	361
,, French Oil	30 m. every ½ hour	293
Ulexine	1-20 to 1-5 gr.	388

Name.	Dose.	Page
Unguentum Acidi Borici, Nos. 1, 2 and 3	1 in 6	5
,, ,, Borici (Lister)	1 in 6	5
,, ,, *Borici*	1 in 7	4
,, ,, *Carbolici*	1 in 20	11
,, ,, Chrysophanici	20 gr. in 1 oz.	109
,, ,, Pyrogallici	60 gr. to 1 oz.	24
,, ,, *Salicylici*	1 to 28	28
,, *Aconitinæ*	1 in 60	37
,, Ætheris Ozonici		213
,, *Antimonii Tartratis*	1 in 5	
,, *Atropinæ*	8 gr. in 1 oz.	68
,, ,, cum Acido Borico		68
,, ,, cum Cocaina		68
,, *Belladonnæ*	80 gr. in 1 oz.	76
,, Bismuthi Oxychloridi	30 gr. in 1 oz.	78
,, Cadmii Iodidi	1 in 8	
,, *Calaminæ*		241
,, *Cantharidis*	1 in 8	94
,, Capsici Oleo-resinæ		97
,, *Cetacei*	1 in 5	
,, *Chrysarobini*	1 in 10	109
,, Cocainæ	1 in 30	134
,, *Creasoti*	60 m. in 1 oz.	157
,, Creasoti Forte	2 parts in 3	157
,, Cucumeris		159
,, Cupri Oleatis		272
,, Diachyli		275
,, *Elemi*	1 in 5	
,, *Eucalypti*	1 (oil) in 5	174
,, *Gallæ*	1 in 6½	
,, ,, *cum Opio*	1 (opium) in 15	
,, *Glycerini Plumbi Subacetatis*		195
,, Gynocardiæ	1 in 4	278
,, Hamamelidis	1 (Liquid Extract) to 10	202
,, *Hydrargyri*	1 in about 2	
,, ,, *Ammoniati*	1 in 10	
,, ,, *Compositum*		
,, ,, *Iodidi Rubri*	16 gr. in 1 oz.	
,, ,, *Nitratis*		
,, ,, ,, *Dilutum*		
,, ,, Oxidi Flavi	1 in 16	205
,, ,, ,, ,, Cum Atropina		68
,, ,, ,, *Rubri*	1 in 8	
,, ,, *Subchloridi*	80 gr. in 1 oz.	
,, Ichthyol		219

NAME.	DOSE	PAGE
Unguentum *Iodi*, 16 gr. in 1 oz.		227
,, *Iodoformi*, 1 in 10		223
,, ,, cum Atropina		68
,, ,, et Eucalypti, 1 in 5		224
,, ,, Rosatum, 5 gr. in 1 oz.		224
,, Kaolin		240
,, Lanolini		242
,, Olei Cadini, 1 in 2		316
,, Oleo-resinæ Capsici		97
,, *Paraffinum*		284
,, Petrolei		289
,, *Picis Liquidæ*, 5 to 7		318
,, Plumbi Oleatis, U.C.H.		275
,, *Plumbi Acetatis*, 12 gr. to 1 oz.		
,, ,, *Carbonatis*, 1 in 8		
,, ,, *Iodidi*, 1 in 8		
,, ,, Oleatis		275
,, Scopolæ		387
,, *Staphisagriæ*		162
,, Styracis (Storax 1, S.V.R. 1, Lard 3), for Scabies		
,, *Sulphuris*, 1 in 5		359
,, Sulphuris cum Hydrargyro		360
,, ,, Hypochloritis		360
,, ,, *Iodidi*, 30 gr. in 1 oz.		360
,, *Terebinthinæ*		
,, Thymol		371
,, Vaselini Plumbicum		276
,, *Veratrinæ*, 8 gr. in 1 oz.		376
,, *Zinci*, 80 gr. in 1 oz.		
,, ,, Compositum		195
,, ,, *Oleati*		276
,, ,, ,, Durum		276
Uralium, *syn.* Ural	15 to 45 gr.	389
Uranii Nitras	½ to 5 gr.	375
Urari	1-20 to ½ gr.	179
Urethane	16 to 60 gr.	389
Urine, Test Papers		367
Urtica Dioica		389
Ustilago Maidis		383
Uterine Points		49, 381
Uva Ursi		383
Valangin, De, Mineral Solvent		63
Valentine's Meat Juice		179
Vanillin, or Vanillic Acid		389
Van Swieten's Liquor		205

Name.	Dose.	Page
Vapor Acidi Carbolici		11
,, Aldehydi		47
,, Ammonii Chloridi		51
,, *Coninæ*		152
,, *Creasoti*		157
,, Iodi Ætherealis		231
,, *Olei Pini Sylvestris*		313
,, Terebenæ		362
,, Thymol		372
Varnishing Pills		310
Vaseline		284
,, Oil, or Liquid		288
Vaselinum Album		285
,, Atropinæ		68
,, Cocainæ, 4 per cent.		134
Vellarine		385
Veratri Viridis Rhizoma	1 to 5 gr.	375
Veratrina	1-70 to 1-16 gr.	376
Veratrinæ Oleatum		376
Verbascum Thapsus		377
Veronica Salicifolia		386
Vesicant Anodyne		95
Viburnum Opulus		389
,, Prunifolium		389
Vienna Paste		346
Vinca Major		359
Vin de Qninquina	1 to 4 dr.	114
Vinum Aloes	1 to 2 dr.	
,, *Antimoniale*	5 to 60 m.	
,, Cocæ	4 to 16 drs.	129
,, *Colchici*	10 to 30 m.	
,, *Ferri*	1 to 4 dr.	
,, *Ferri Citratis*	1 to 4 dr.	
,, *Ipecacuanhæ*	5 to 40 m. expectorant 3 to 6 dr. emetic	
,, *Opii*	10 to 40 m.	
,, Pepsinæ	1 to 2 dr.	292
,, *Quininæ*	2 to 8 dr.	332
,, *Rhei*	1 to 2 dr.	
Viola Tricolor	10 to 60 gr.	389
Violin		389
Viscum Album	10 to 60 gr.	390
Vitis Alba		80
Vlemingkx' Solution		88
Voice Tablets		361
Volckmann's Solution cf Thymol		371

NAME.	DOSE.	PAGE.
Volumetric Solution of Iodine	...	227
Warburg's Fever Tincture	1 to 4 dr.	332
Water Glass	...	348, 349
Weights and Measures, Metrical	...	vi
Wheat Phosphates, Saccharated	...	302
White Agaric	10 to 30 gr.	45
White Bryony	...	80
White Quebracho Bark	...	325
Wickersheimer's Preserving Liquid	...	12
Wild Cherry Bark	...	322
Willow, Black or Pussy	...	387
Wine of Cinchona	1 to 4 dr.	114
,, of Coca	½ to 2 oz.	129
Winter Bloom	...	201
Witch Hazel	...	201
Wood Oil	½ to 2 dr.	72
Wood Wool Bapkins	...	313
,, ,, Diapers	...	313
,, ,, Sheets	...	313
,, ,, Wadding	...	313
Wool, Absorbent	...	198
Wools, Medicated	...	199
Wourara, *syn.* Wourali	1-20 to ½ gr.	159
Wrack, Bladder	...	189
Yerba Santa	...	390
Zansloin	1 to 4 gr.	48
Zinc Cream	...	289
Zinci Acetas	1 to 2 gr	
Zinci Bromidum	3 to 10 gr.	378
,, *Chloridum*	½ to 1 gr.	378
,, Citras	3 to 12 gr.	379
,, Cyanidum	$\frac{1}{10}$ to 1 gr.	380
,, Lactas	3 to 30 gr.	380
,, Oleas	...	277
,, *Oleatum*	...	276
,, *Oxidum*	2 to 10 gr.	240
,, Permanganass	...	322, 380
,, Phosphidum	1-20 to 1-3 gr.	297
,, *Sulphas*	1 to 3 gr. tonic 10 to 30 gr. emetic	381
,, ,, Uterine Points	...	381
,, Sulphatis Lotio Rubra	...	381
,, Sulpho-ichthyolas	...	381
,, *Sulphocarbolas*	...	218
,, *Valerianas*	...	14
Zinci et Potassii Cyanidum	1 to 3 gr.	381
Zingiber	1-10 to 1 gr.	380
	5 to 15 gr.	192

THERAPEUTIC INDEX

OF

DISEASES AND SYMPTOMS.

N. B.—The Remedies are arranged in Alphabetical order; all those added in the Fifth and Sixth Editions are printed in italics at the end of each paragraph.

Abortion, Threatened.—Hydrastis, Hydrastin, Morphina, Opium, Sumbul, Viburnum prunifolium, *Coeina.*

Acne. — *Internal* — Calx Sulphurata, Hypophosphites, Potassii Bromid., Quininæ et Ferri Citras, Sodii Bromid., Sulphur.—— *Local* — Calaminæ Lotio, Belladonna, Hydrarg. Perchlorid. Lotio, Ichthyol, Sulphur. Iodid. Ung., Sulphur. Hypochloritis Ung., Thymol Ung., *Lanolin, Mollin.*

Ague.—Acid. Salicylic. and Salicin, Apiol, Arsenic, Chinolinum, Cinchonina, Cinchonidinæ Sulphas, Eucalyptus Globulus, Hydrastis, Quinetum, Quininæ Sulph. and Hydrobrom., Quinidinæ Sulph., Sodii Hyposulph., Warburg's Tincture, *Ammonii Picras, Berberina, Piperina.*

Albuminuria.—Acid. Gallic., Fuchsine, Jaborandi and Pilocarpine. Ozonic Ether, *Nitroglycerine and Nitrites of Amyl and Sodium.*

Alcoholism.—Arsenic, Capsicum, Cinchona rubra, Hydrastis, Lupulin, Morphina, Nux Vomica, Phosphorus, Picrotoxin, Quinine preps., Strychnine, *Hyoscinæ Hydrobromas.*

Alopecia.—*Internal*—Pilocarpine. Strychnine.——*Local*—Ammon. Liquor, Cantharides preps., Iodum, Nuc. Vomic. Tinct., Petroleum Spirit, Pilocarpine Nitrate Lotion.

Amenorrhœa.—Actæa and Cimicifugin, Aloes, Apiol, Caulophyllin, Ergota, Gossypii Rad. Cortex. Iron Salts, Manganesii Oxidum, Phosphas and Sulphas, Menyanthes, Potass. Permang., Pulsatilla, Thuja, *Hydrastin, Santonin.*

Anæmia.—Arsenic, Calcii Phosph., Calcii Hypophosph., Ferri Bromid., Ferri Chloroxid. Liquor, Ferrum Dialysat., Ferri Hypophosph., Ferri Perchlorid., Ferri Phosph., Ferri Sulph., Pil. Ferri Carb. (Blaud), and Pil. Ferri Sulph., Phosphorus, Quinine preps., Sodii Hypophosphis, *Liquor Ferri Albuminati, Liquor Ferri Peptonati, Tinctura Ferri Pomata. Ferri Sulphocyanidum, Levico Water, mild and strong.*

Anæsthetics by inhalation.—A.C.E., Æther, Æthyl Bromid., Æthyl Iodid., Carbon. Tetrachlor., Chloramyl, Chloroform, Ethideni Dichlorid., Iso-Butyl Chlorid., Methylene, Nitrous Oxide Gas, *combined Chloroform and Cocaine, Hydramyl-ether.*

Anæsthetics, Local.—Æther, Cocaine Salts, Ice, Menthol, Methyl Chloride, Rhigolene, *Acid. Carbolic., Compound Anæsthetic Ether, Erythropleinæ Hydrochloras, Stypage Tampons of Methyl Chloride.*

Aneurism.—Aconite, Amyl Nitris (?), Digitalis, Ergotina, Nitroglycerine (?), Potassii Iodidum.

Angina Pectoris.—Æther, Æthyl Iodid., Amyl Nitris, Arsenic, Morphinæ inj. hypod., Nitroglycerini Liquor and Tabellæ, Sodii Nitris, *Methylal, Pyridina.*

Anthelmintics.—See **Parasites, Intestinal.**

Aphthæ.—*Internal*—Acid. Nit. Dil., Potass. Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Sulphuros., Alumen, Bismuth, Borax, and Glyc. of, Potass. Chloras, Potass. Permang., Sodii Chloras., Sodii Chlorinat. Liquor, *Iodoform, Iodol, Lotio Nigra et Glycerini, part. æq.*

Asthma.—*Internal*—Æthyl Iodid., Amyl Nitris, Antimony, Arsenic, Belladonna, Caffeine, Cannabis, Cannabin Tannas, Chloral Hydras, Chloroform, Colchicum, Delphina, Euphorbia pilulifera, Grindelia, Jaborandi, Lobeliæ Tinct. and Tinct. Ætherea, Nitroglycerine, Pilocarpine, Quebracho, Stramonium.——*Local* — Acid. Sulphuros. Vapor, Arsenical Cigarettes, Chloroform Vapor, Coca or Eucalyptus leaves smoked, Potass. Nit. fumus, Pyridine, Stramonium fumes, Tobacco fumes, Bliss', Green Mountain, and Himrod's Cures by fumes, *Pulvis Lobeliæ Co.*——*Internal*—*Anemonin, Coca* and *Cocainæ Salicylas, Codeine, Hyoscine, Potassii Cobalto-nitris, Sodii Nitris.*

Bed Sores. — *Local* — Acid. Tannic. Glycerin., Alcohol, Argent. Nit. in Nitrous Ether solution, Brandy, Glycerine, Iodoform. Gossyp. and Ung., Peruv. Bals., Tannin Iodoform and Starch Powder, *Resorcin.*

Bile, Deficiency of. — Hydrarg. cum Cretâ, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Taraxacum.

Biliousness.—Euonymin, Hydrastis and Hydrastin, Iridin, Juglandin, Leptandrin, Podophyllin, Sanguinarin, Seidlitz Powders, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves., Stillingia.

Bites and Stings.—*Local*—Alcohol, Ammon. Liquor, Arnicæ Tinct., Chloroform, Cocainæ Hydroch. Liquor, Onion Juice, Potass. Permang. (for Serpent's venom), Sodii Bicarb., Thymol and Starch powder, Thymol Ung.

Bladder, Catarrh of.—See **Catarrh, Vesical.**

Boils and Carbuncles.— *Internal*— Alkalies, Arsenic, Calx Sulphurata, Ferri Perchlorid., Hypophosphites, Sulphides, Sulphurous Waters, Syr. Sulphatum, Yeast.——*Local*— Argent. Nit., Belladonnæ Glycerin. (as pigment and on poultices), Collodium, Fermonti Cataplasma, Opii Ext., *Carbolated Camphor, Pilulæ Sulphatum.*

Brain, Softening of. — Hypophosphites, Iron Salts, Morrhuæ Ol., Phosphorus.

Breast, Inflammation of.—*Local* — Belladonnæ Ext. Glycerin. and Linim., *Phytolacca.*

Breath, Fetid.—*Local*—Acid. Salicylic., Calcii Permang., Camphora, Creasoti Vapor, Myrrh with Borax Tincture, Sanitas (Toilet).

Bright's Disease.—Alkalies, Cannabis, Digitalis, Elaterium, Hydrastis, Jaborandi and Pilocarpine, Nitroglycerine, Potass. Iodid., Scoparii Succus, *Antipyrin.*

Bronchitis, Acute. — Aconite, Ammon. Acet. Liquor Antimony, Ipecacuanha, Pulsatilla.

Bronchitis, Chronic.—*Internal*—Ammon. Carb., Ammon. Chlorid., Apomorph. Hydrochl., Arsenic, Benzoates and Benzoin. Tinct., Eucalyptus Globulus, Grindelia, Morphine preps., Morrhuæ Ol., Piscidia, Prunus Virginiana, Pulsatilla, Scilla, Senega, Tar, Tolu. Bals.——*Local*—Acid. Carbolic. Vapor, Acid. Sulphuros. Vapor, Creasoti Vapor, Croton Ol. cum Collod., Croton Linim., Iodi Linim., Iodi Vapor., *Anemonin, Creolin, Quillaia, Syrupus Picis Liquidæ, Terebena pura, Terpin hydrate, Terpinol, Yerba santa.*

Bruises.—*Local*—Arnicæ Tinct. (well diluted), Calendula, Hamamelis, Hazeline, *Hydrastis Tinctura.*

Burns and Scalds—*Local*—Acid. Boric Ung., Calamin. Cerat., Chartazine, Cocainæ Ceratum, Iodoform., Lini. Ol. cum Aquâ Calcis, Thymol. Ung., Vaseline, Zinci Oleat. Ung., Zinci Ung., *Lanolin, Mollin.*

Bubo.—*Local*—Chlori Aqua, Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Ung., Hydrogen. Peroxid.

Calculi, Urinary.—Alkaline Carbonates, Ammon. Benz. and Phosph., Calcis Aqua, Lithium preps., Mineral Acids (for Phosphatic), Potass. Citras, Sodii Benz. and Hippuras.

Cancer.—*Internal*—Arsenic preps., Calx Sulphurata, Chloral Hydras and Opium preps. (as sedatives), Terebinth. Chia.——*Local*—Acid. Carbolic. (caustic), Acid. Carbolic. Glycerin., Acid. Chromic., Acid. Salicylic. cum Oleo, Bromum cum Acid. Oleic., Hydrarg. Nit. Acid. Liquor, Iodoform., London Paste, Morphine, Morphinæ Oleat., Quininæ Salicylas, Tannin and Opium, Vienna Paste, Zinci Chlorid. and Paste. ——*Internal—Mist. Tereb. Chiæ, and Mist. Tereb. Chiæ sine Sulphure, and Mist. Tereb. Chiæ cum Resorcin.*

Carbuncles.—See **Boils.**

Cardiac Tonics—Adonidin, Adonis Vernalis, Caffeina, Convallaria, Digitalis, Erythrophlœum, Scilla, Strychnina, Veratrum viride, *Ouabaïna, Sparteinæ Sulphas, Strophanthus.*

Caries.—Calcii Chlorid., Calcii Hypophosph., Calcii Phosph., Saccharated Wheat Phosphates.

Catarrh, Bronchial.—Aconite, Actæa, Aldehyd. Vapor, Ammon. Chlorid., Antim. Tart., Ferrier's Snuff, Prunus Virginiana, Pulsatilla, Sinapis Emplast., Spt. Æther. Nitros.

Catarrh, Gastro-intestinal.—Bismuth preps., Caffeine, Eucalyptus Globulus, Hydrastis, Hydrocyanic Acid, Salines, *Betol, Bismuthi Salicylas, Collinsonia Canadensis.*

Catarrh, Vesical and **Cystitis.**—Acid. Lactic. Alkalies, Benzoates, Buchu, Eucalyptus Globulus, Gokhru, Hydrastis, Juniper, Pareira, Triticum repens, *Arbutin, Betol, Collinsonia Canadensis, Saccharinum.*

Catarrh, Nasal.—Acid. Carbolic. Buginarium, Bismuth. Co. Pulv., Carbolised Smelling Salts, Iodoformi Buginarium and Ung. Rosatum, *Eucalypti Oleum, Camphor inhalation, Pilula Atropinæ Quininæ et Arsenici, Menthol inhalation, injection, Wool and Snuff of, Menthol and Camphor inhalation.*

Catarrh, Uterine.—*Local*—Acid. Carbolic. Glycerin., Boracis Glycerin., Camphorated Carbolic Acid, Iodoform. Gossyp. and Pessus, Plumbi Subacet. Glycerin., Opii et Amyli Enema, Zinci Sulph. Uterine Pencils, and with Alum.

Chancres, Soft.—*Local*—Hydrarg. Flav. Lotio, Hydrarg. Nig. Lotio, Hydrarg. Subchlor., Iodoform. and Ung., Plumbi Acet. Lotio, Resorcin.

Chapped Skin.—*Local*—Acid. Boric. Ung., Camphor Ball, Ceratum Petrolei, Collodium, Glycerin. cum Aquâ Rosæ, Vaseline, *Cucumeris Ung., Lanolin, Mollin.*

Chilblains.—*Local*—Acid. Boric. Ung., Acid. Carbolic. Ung., Aconit. Linim., Belladonnæ Linim. and Linim. Co., Cajeput Ol., Capsici Linim., Eucalypti Ol. Ung., Iodi Tinct. Decolor., Iod Ung., Iodoform Wool and Ung., Oleanodyne, Plumbi Subacet. Glycerin., Glycerini Plumbi. Subacet. Ung.

Chloasma.—See **Tinea Versicolor.**

Chlorosis.—Arsenic, Ferri Amara Mist., Ferri Aper. Mist., Ferri Co. Mist., Ferri Carb. Pil. (Blaud), Ferri Dialysat. Liq., Ferri Perchlorid. Tinct., Ferri Sulph. Pil., Hypophosphites, Myrrh et Aloes Pil., Phosphorus, *Mistura Ferri Arsenicalis, Manganesii Oxidum, Santonin, Tinctura Ferri Pomata, Levico Water, mild and strong.*

Cholera.—Camphora, Chloromorphiæ Liq., Copper Salts, Coto and Cotoin, Hydrarg. cum Cretá., Hydrarg. Subchlorid. cum Opio, Morphina, Opium, Paracotoin, Plumbi Acet., Plumbi cum Opio Pil., *Cresol Salicylas, Resorcin.*

Chordee.—Aconite, Belladonna, Bromides, Camphora, Cannabis, Canthar. Tinct. (one minim hourly), Chloral Hydras, Morphinæ inj. hypod., Opii Suppos.

Chorea.—Actæa, Arsenic, Calcii Chlorid., Chloral Hydras, Cimicifugin, Conium and Coniæ Hydrobrom., Curara, Ergota, Ferri Bromid., Ferri Phosph., Morrhuæ Ol., Phosphorus, Physostigma and Physostigmine, Strychnine, Valerianates, Zinci Bromid. and Oxid., *Antipyrin, Inula Helenium, Scutellarin.*

Colic.—Æther, Belladonna, Calcis Aqua (for infants), Cajeput Ol., Camphora, Chloroform, Chloromorphiæ Liq., Menth. Pip. Ol., Morphine preps., Opium preps., *Tinctura Carminativa.*

Collapse and Fainting.—Æther inj. hypod., Æther. Spt., and Spt. Co., Alcohol, Ammon. Arom. Spt., Ammon. Vapor, Amyl Nitris., Digitalis Tinct. and Inj. Hypod. 20 m.

Conjunctivitis.—*Local*— Acid. Boric., Alumen, Belladonna, Boroglyceride, Hydrarg. cum Morphinâ Oleat., Hydrarg. Oxid. Flav. Ung., Hydroquinone, Opii Vinum, Resorcin, Zinc. Sulph. Lotio, *Iodol.*

Conjunctivitis, Diphtheritic. — *Local* — Quininæ Sulph. Lotio., Hydroquinone, Resorcin, *Iodol,*

Constipation.—Aloes and Aloin, Belladonna, Cascara, Coloc. Co. Pil., Coloc. Co. cum Hyoscy. Pil., Emblic Myrabolans, Glycyrrh. Co. Pulv., Hydrarg. Subchlorid., Iridin, Juglandin, Magnes. Sulph., Nux Vomic., Podophyllin, Rhamnus Frangula, Rhei Co. Pil., Rhei Co. Pulv., Ricini Ol., Scammon. Co. Pil., Seidlitz Powders, Senna, Sennæ Confect., Sennæ Co. Mist., Sodii Phosph. Efferves., Sodii Sulphas Efferves., Sodio-Magnes. Sulph. Efferves., Sulphur, Sulphur. Confect., *Cascara capsules, Elixir Cascara Sagrada, Ext. Casc. Sag. Liquid. insipidum, Eseridina, Gluten Suppositoria, Glycerini Inject. and Suppos., Sennæ Elixir, Sodii Sulpho-vinas, Syrupus Cascara Sagrada, Tinct. Laxativa.*

Convulsions. — Amyl Nitris, Anæsthetics, Camphor. Monobrom., Chloral Suppos., Morphine preps., Podophyllin, Potassii Bromid., Sodii Bromid., Sodii Nitris.

Convulsions, Puerperal.—Anæsthetics, Chloral Hydras, Nitroglycerine, Pilocarpine, *Veratrum viride.*

Cornea, Inflammation, and Ulcers of.—*Local*—Atropine, Belladonna, Cocain. Hydroch. Liquor, Daturine, Duboisine, Eserine, Hydroquinone, Pilocarpine, Hydrarg. Oxid. Flav. Ung., Hydrarg. Subchlorid., *Infusum Abri.*

Corns.—See **Warts.**

Coryza.—See **Catarrh Nasal,** and **Hay Fever.**

Cough.—Acid. Hydrobromic., Belladonna, Benzol, Bryonia, Camphor. Co. Tinct., Chloral Hydras, Codeina, Conium, Gelsemium, Helenin, Hyoscyamus, Morphinæ Linctus, Morphinæ Troch., Morphinæ et Ipecac. Troch., Narceina, Opium preps., Picis Liq. Fil., Piscidia, Prunus Virginiana, Terpin Hydrate, *Creasote inhaled, Terebena pura, Terpinol.*

Croup, True.—*Internal*—Acid. Lactic., Aconite and Aconiti Pastillus, Alumen, Ammon. Carb., Antimony, Bromides, Calcii Sulphid., Ipecacuanha, Zinci Sulph.——*Local*—Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Acid. Tannic. Nebula, Calcis Aquæ Nebula, *Inula Helenium.*

Croup, False.—See **Laryngismus Stridulus.**

Debility.—Alcohol, Arsenic preps., Calcii Phosph., Calumba, Cinchona preps., Gentiana, Hypophosphites, Iron Salts, Maltum, Morrhuæ Ol., Phosphorus, Quassia, Quinine preps., Strychnine, *Calcii Hypophosph. Syrup, Elixir Ferri, Quininæ et Strychninæ Phosphatum, Morrhuol, Levico Water, mild and strong.*

Delirium Tremens, and see **Alcoholism.**—Alcohol, Ammon. Carb., Bromides, Camphora Monobromata, Capsicum, Chloral, Digitalis, Hyoscyamine, Opium preps., Phosphorus, Quinine preps., Strychnine, Veratrum viride, *Antifebrin, Hyoscine, Methylal, Sulphonal.*

Diabetes.—Acid. Lactic., Codeina, Convallaria, Glycerine, Hydrogen Peroxide, Jaborandi, Opium, Oxygen, Ozonic Ether, Sodii Salicylas, Thymol, Sodii Arsenias, Uranii Nitras, *Antipyrin, Creasotum, Jambul, Morphina, Phosphorus, Saccharin, elixir and tabellæ of, Soya, bread of.*

Diarrhœa.—*Internal*—Acid. Carbolic., Acid. Gallic., Acid. Sulph. Dil. and Aromat., Agaricus albus and Agaricin, Anthemis, Bismuth preps., Calcis Aqua, Calcii Carb., Camphora, Catechu, Coto Tinct., Cotoin, Cretæ Arom. Pulv., and cum Opio, Cupri Sulph., Eucalyptus Gum., Ferri Pernit. Liq., Guarana, Hydrarg. cum Cretâ, Ipecac. Co. Pulv., Kino, Leptandrin, Myricin, Opium preps., Plumbi Acet., Podophyllin, Ricini Ol.——*Local*—Acid. Tannic. Suppos., and cum Opio, Amyli Enema, and cum Opio, Gallæ Suppos. and cum Opio, Turpentine Stupes.——*Internal*—*Abies Canadensis, Berberina, Bismuthi Salicylas, Cannabis, Ferri Salicylas, Geranium maculatum, Naphthalin, Naphthol, Quininæ Salicylas, Resorcin, Safrol, Sodii Phosphas.*

Diphtheria.—*Internal*—Acid. Salicylic., Calx Sulphurata, Ferri Perchlorid., Pilocarpine, Sodii Hyposulphis., Sodii Chloras.——*Local*—Acid. Benzoic. Nebula, Acid. Carbolic. Glycerin. and Nebula, Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Argent. Nit., Calcis. Aquæ Nebula, Chinoline, Chlori Aqua, Eucalypti Ol. and Vapor, Hydroquinone, Papayotin, Pepsin. Glycerin. Acid., Resorcin, Sodii Benzoatis Nebula, Sodii Chlorinat. Liquor, *Acid. Salicylicum and Sulphurosum, Inula and oil pigment, Iodol, pigment of, Ozonic Ether, Papain, Pigment of, Sodii Benzoas.*

Dipsomania.—See **Alcoholism.**

Dropsy, Cardiac.—Asparagin, Caffeine, Convallaris majalis, Delphina, Digitalis, Digitalin, Elaterium, Erythrophlœum, Strophanthus, Veratrum Viride.

Dropsy, Hepatic.—Ammon. Benzoas, Ammon. Chlorid., Copaibæ Bals., Hydrarg. Pil., Hydrarg. Subchlorid., Sodii Bicarb., Taraxacum, *Sparteinæ Sulphas, Ulexine.*

Dropsy, Renal.—Apocynum Cannabinum, Buchu, Delphina, Elaterium, Hydrarg. Pil., Jalapa, Juniperus, Pilocarpine, Potass. Acet., Potass. Tart. Acida, Potassii Iodid., Potass. Nit., Scilla, Sodii Iodid., *Blatta orientalis.*

Dysentery.—Belæ Fructus, Eucalypti Gum., Guarana, Hæmatoxylum, Hamamelis, Hydrarg. Perchlorid., Ipecacuanha, Ipecac. Co. Pulv., Opuim, Plumbi Acetas, Terebena pura, Terebinth. Ol., and Stupes of, *Cannabis, Naphthalin.*

Dysmenorrhœa.—Actæa, Æther Spt. cum Opii. Tinct., Amyl Nitris, Anemonin, Apiol, Butyl Chloral, Cannabis and Cannabin Tannas, Carbon. Tetrachlor. Vapor, Cimicifugin, Gossypii Rad. Cort., Potass. Bromid., Pulsatilla, Serpentaria, Valerian, *Antipyrin, Hydrastis, Salix nigra, Viburnum prunifolium.*

Dyspepsia.—Acid. Carbolic. Perle and Pil., Acid. Nit. Dil., Acid. Hydroch. Dil., Aloes and Aloin, Ammon. Carb., Argent. Nit. and Oxid., Arsenic, Belladonna, Bismuth. Carb, Oxychlorid. and Subnit., Capsicum, Cerii Oxalas, Creasote, Emblic Myrabolans, Gentiana, Gingerin, Hydrarg. cum Creta, Hydrastis, Hydrocyanic Acid, Leptandrin, Malti Ext., Menispermin, Nux Vomica, Pancreatin, Papayotin, Pepsin, Podophyllin, Quinine preps., Rhei Rad., Rumicin, Salicin, Sanguinarin, Sodii Bicarb., Sodii Sulphocarb., Stillingia. *Orexine, Papain Glycerin. Acid., Pepsin and Bismuth tablets, Sodii Taurocholas.*

Dyspnœa.—Æther Spt., Æthyl Iodid., Alcohol, Amyl Nitris, Lobelia, Ozonic Ether, Quebracho and Aspidospermine, *Nitroglycerine, Potassii Cobalto-nitris, Sodii Nitris.*

Earache.—*Local.*—Atropinæ Liquor or Oleatum (diluted), Chloroformi Vapor, Cocaina cum Oleo, Morphinæ Oleatum (diluted), Opii Tinct. cum Oleo, *Delphina in Spirit or in Ung.*

Eczema.—*Internal*—Arsenic preps. Iron Salts, Morrhuæ Ol., Phosphorus, Sulphides, Sulphur.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Chrysarobini Ung. (weak), Acid. Salicylic. Ung., Bismuth Nit. Glycerin., Calaminæ. Lotio, Calcis Aqua, Calcis Linim., Diachyli Ung., Huile de Cade, Kaolin Ung., Naphthol, Plumbi Stearas, Plumbi Subacet. Glycerin. and Ung., Tar, Thymol, Zinci Cremor, Zinci Oleat. Pulv. and Ung., Zinci Ung., *Ichthyol, and Collodium Ichthyol, Lanolin, Mollin, Resorcin, Thio-Resorcin, Thiol, Alkaline lotions.*

Epilepsy.—Ammon. Bromid., Amyl Nitris, Argent. Nit., Arsenic, Atropine, Belladonna, Borax, Bromal-Hydras, Brucia, Camphora Monobromata, Cannabis, Cupri Ammon-Sulph., Cypripedin, Iron Salts, Ozonic Ether, Picrotoxin, Potass. Bromid., Simulo, Sodii Bromid., Sodii Nitris, Strychnine, Valerianates, Zinci Bromid., Citras, Lactas, and Sulphas, *Antifebrin, Auri Bromidum, Elepizone, Nitroglycerine tablets or Liquor, Potassii Osmias, Rubidium-Ammonium Bromide, Scutellarin, Viscum album.*

Epistaxis.—*Internal*—Acid. Gallic., Aconite, Digitalis, Ergotin inj. hypod., Ferri Perchlorid., Ferri Pernit. Liq., Ferro-Alumen, Hamamelis, Terebinth. Ol.——*Local*—Acid.

Tannic., Alumen, Hamamelis, Matico, Styptic Colloid, Urticæ dioicæ Ext. Liquidum.

Erysipelas.—*Internal*—Aconite, Belladonna, Digitalis, Ergot, Ferri Perchlorid., Veratrum viride.——*Local*—Acid. Sulphuros. Lotio, Amylum, Amyli Glycerin., Argent. Nit., Belladonnæ Glycerin., Calaminæ Lotio, Cocainæ Ceratum, Collodium, Creasotum et Amylum, Ergotine in Sol., Gossyp. Acid. Boric., Iodi Pigment., Potassii Silicatis Sol., *Antifebrin, Acid, Picric, Pigment.*

Erythema.—*Local*—Amyli Glycerin., Anthemid. Infus., Diachyli Ung., Kaolin and Lotio or Ung., Papav. Infus., Plumbi Subacet. Lotio., Vaseline, Zinci Oxid. and Ung.

Exophthalmic Goitre.—Belladonna, Digitalis, Duboisine, Iron Salts, Quinine preps.

Eye: Pupil, Contractors of.—Jaborandi and Pilocarpine, Opium and Morphine Physostigma Physostigmine.

Eye: Pupil, Dilators of.—Belladonna and Atropine, Cocaine, Daturine, Duboisine, Humatropine, Hyoscyamine, Nicotine, *Hyoscine salts, Mandragorine, Salicylate and Santonate of Atropine.*

Eye: Local Dilators, but Contract when given internally in suitable doses.—Gelsemine, Muscarine.

Fainting.—See **Collapse.**

Favus.—See **Parasites, Vegetable, of Skin.**

Fetid Breath.—See **Breath, Fetid.**

Fetid Perspiration.—See **Perspiration, Fetid.**

Fetid Nasal Discharges.—See **Ozæna.**

Fever.—Acid. Salicylic., Aconite, Ammon. Acet. Liq. and Carb., Antimony, Antipyrin, Belladonna, Chinoline, Cinchonine, Cinchonidinæ Sulph., Digitalis, Eucalyptus Globulus. Gelsemium, Kairine, Piperine, Potass. Acet. Chloras and Citras, Quinine preps., Quinidinæ Sulph., Quinetum, Salicin. Sodii Salicylas, Thallin, Veratrum viride. Warburg's Tincture, *Antifebrin, Antithermin, Benzanilide, Methacetin, Phenacetin.*

Fissures of Nipples.—*Local*—Acid. Tannic. Glycerin., Alcohol, Argent. Nit., Calcis Aqua, Cocainæ Hydroch. Liquor, Collodium Flexile, Hydrastis Tinct., Plumbi Subacet. Glycerin., Styptic Colloid.

Flatulence.—Acid. Carbolic., Acid. Sulphuros., Æther. Spt., Asafœtida, Bismuth preps., Capsicum, Carbo Ligni, Chloromorphiæ Liquor, Creasote, Magnesia preps., Menispermin, Menth. Pip. Ol., Nux Vomica, Sodii Bicarb., Sulphocarbolates, Zingiberis Tinct., *Tinct. Carminativa.*

Gall Stones and **Hepatic Colic.**—Æther Spt., Amyl Nitris, Anæsthetics, Chloral Hydras, Iridin, Morphine preps., Nitroglycerine, Podophyllin, *Perles of Ether and Turpentine.*

Gastralgia.—Acid. Hydrocyanic. Dil., Æther. Spt., Alkalies, Belladonna, Bismuth, Calcis Aqua, Cerii Oxalas, Chloroform, Chloromorphiæ Liq., Creasote, Magnesia, Manganesii Oxid., Pepsin, *Bismuthi Salicylas, Coca and Cocaina, Codeina.*

Gastric Catarrh.—See **Catarrh, Gastric.**

Glands, Enlarged.—*Internal*—Calcii Chlorid., Ferri Iodid. and Iron Salts, Iodoform, Iodum, Morrhuæ Ol., Potass. Iodid., Sodii Iodid.——*Local*—Cadmii Iodid. Ung., Hydrarg. Oleat. and Emplast., Iodi Decolor. Tinct., Iod. Linim. and Ung., Potass. Iodid. Ung.

Glaucoma.—*Local*—Physostigminæ Sulph., Pilocarpina.

Gleet.—See Gonorrhœa.

Goitre.—*Internal*—Acid. Hydrofluoric. Dil., Hydrarg. Biniodid , Iodum, Phosphorus, Potass. Iodid., Sodii Iodid. ——*Local*—Acid. Acetic. inj. hypod., Acid. Osmic. inj., Hydrarg Biniodid. Ung., Hydrarg. Oleat., Hydrarg. Ung., Iodi inj. hypod. T.H., Iodi Linim. and Ung.

Gonorrhœa.—*Internal*—Aconite, Copaiba, Cubebs, Iron Salts, Potash Salts, Saline Aperients, Santali Ol.——*Local*—Acid. Carbolic., Acid. Sulphuros., Acid. Tannic., Argent. Nit., Belladonna, Bougies Urethral (See Index), Eucalyptus Oil emulsified, Hydrarg. Perchlor., Hydrastis Tinct., Iodoform, Iodof. et Eucalypti Cereolus, Iodoformi Cereolus, Potass. Permang., Sodii Silicat. Sol., Zinci Chlorid. Permang. and Sulphocarb., *Antrophores of Thallin, Bismuthi Oxyiodidum.* ——*Internal—Kava-Kava, Resorcin, Salix nigra.*

Gout.—Aconite, Asparagin, Colchicum and Colchicin, Coto and Cotoin, Guaiacum, Lithii Carb. and Citras, Manganese Salts, Potass. Citras and Iodid., Sodii Phosph., Sodii Benzoas Hippuras and Iodid., Sulphides, *Bromal Hydras, Kava-Kava, Lithii Hippuras, Sodii Taurocholas, Siegesbeckia orientalis.—Local—Morphinæ Inject. Hypod.*

Gums, Inflamed, and Spongy.—*Local*—Alumen, Iodi Tinct., and cum Aconiti Tinct., Krameriæ Tinct., Myrrhæ et Boracis Tinct., Potass. Chloras, Pastil, Tablet and Troch., Pyrethri Tinct., Sodii Chloras and Troch., *Acid. Carbolic.*

Hæmatemesis.—Acid. Gallic., Acid. Sulph. Dil., Alumen, Ergota, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.

Hæmaturia.—Acid. Gallic., Antimony, Camphor, Cannabis, Ergota, Ferro-Alumen, Hamamelis, Terebinth. Ol.

Hæmoptysis.—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Alumen, Digitalis, Ergota and Ergotin, Hamamelis, Opium., *Abies Canadensis, Antipyrin, Atropine.*

Hæmorrhage.—*Internal*—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Cupri Sulph., Digitalis, Ergota, Ergotin, Eucalyptus Gum, Ferro-Alumen, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.——*Local*—Acid. Tannic., Alumen, Catechu, Cupri Sulph., Eucalyptus Gum, Ferri Perchlorid., Ferro-Alumen, Hamamelis, Matico, Styptic Colloid, Zinci Chlorid. Liq.——*Internal—Hæmatoxylum, Potassii Succinas.—Local—Bryonia.*

Hæmorrhage, Post Partum.—*Internal*—Acid. Sclerotic., Amyl Nitris, Ergota, Ergotin inj. hypod., Ergotinini inj. hypod., Gossypii Rad. Cort., Opium with Alcohol.——*Local*—Alumen, Ferri Perchlorid. Gossyp. and Liquor.——*Internal—Nux vomica, Strychnina and its salts.*

Hæmorrhoids.—*Internal*—Aloes, Cascara Sagrada Hamamelis, Liquiritiæ Co. Pulv., Piper. Conf., Rhamnus Frangula, Senna and Conf., Sulphur.——*Local*—Acid. Boric. Ung., Acid. Nit. (caustic), Gallæ cum Opio. Ung., Hamamelis, and Suppos. of, Plumbi. Subacet. Glyc. and Ung. *Chrysarobin, Coninæ Ung.*

Hay Fever.—*Internal*—Ammonii Chlorid., Anthoxanthum, Belladonna, Grindelia, Potass. Iodid., Quinine preps. ——*Local*—Acid. Salicylic. Pulv., Bismuth. Co. Pulv., Carbolised Smelling Salts, Carbon. Tetrachlor. Vapor, Cocain, Hydroch. Liquor, Quininæ Collunarium, Stramonium Fumes. *Douche of Iodide of Mercury,* 1 *in* 2000—*Inhalation—Camphor, Eucalypti Oleum, Menthol, Menthol and Camphor.—Internal—Zinci Valerianas.*

Headache, Bilious or Sick—Euonymin, Guarana. Hydrastis, Iridin, Juglandin, Leptandrin, Myricin, Podophyllin, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves.

Headache, Congestive or Inflammatory.—Actæa, Ammon. Chlorid., Antimony, Crotonis Ol., Hydrarg. Subchlorid., Ricini Ol., Veratri Viridis Tinct., *Salicylates of Sodium &c.*

Headache, Nervous.—Acid. Hydrocyanic., Actæa Ammon. Arom. Spt., Arsenic, Belladonna, Bromides, Butyl Chloral, Caffeine, Camphora, Cannabis, Cimicifugin, Ferri Valerianas, Guarana, Iron Salts, Nitroglycerine. Quininæ Valerianas, Theine, Zinci Lactas Oxidum and Valerianas, *Antipyrin, Phenacetin.*

Hectic Fever.—Acid. Benzoic. and Benzoates, Acid. Salicylic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Gelsemium, Quinine preps., Salicin, Salicylates.

Herpes, and Zoster.—*Internal*—Morphinæ. inj. hypod. (for pain), Quinine preps., Salines and Saline Aperients.—*Local*—Amyli Glycerin., Cocainæ Ceratum, Collodium, Hydrarg. Ammon. Ung., Menthol (for pain), Vaseline, Zinci Oleat. Ung., Zinci Ung.

Hiccough.—Æther. Spt., Camphora, Chloral, Chlorof. Spt., Morphine preps., Sodæ Bicarb., *Amyl Nitris.*

Hordeolum.—*Local*—Argent. Nit., Belladonnæ Fotus, Hydrarg. et Morphinæ Oleat., Iodi Tinct.

Hydrophobia.—Anæsthetics, Amyl Nitris, Cannabis Indica and Cannabin, Chloral, Curara, Morphine, Nitroglycerine, Pelletierine, Physostigma and Physostigmine, Pilocarpine.

Hysteria.—Actæa, Asafœtida, Bromides, Cannabis Indica, Cypripedin, Iron Salts, Nux Vomica, Phosphorus, Pulsatilla, Quinine preps., Strychnine, Valerian and Valerianates, Zinc Salts.

Impetigo.—*Internal*—Arsenic, Iron Salts, Mineral Acids, Morrhuæ Ol., Phosphorus, Quinine preps., Zinc Salts.—*Local*—Acid. Tannic. Glycerin., Hydrarg. Ammon. Ung., and Hydrarg. Ammon. cum Sulph. Ung., Iodoform. and Ung., Zinci Oleat. Ung., Zinci Oxid. Ung.

Impotence.—Arsenic, Cannabis Indica and Cannabin Tannas, Cantharides, Coca and Cocaine, Damiana, Ergota and Ergotin, Ferri Perchlorid., Nux Vomica, Phosphorus, Sanguinaria, Strychnine, Zinci Phosphid.

Incontinence of Semen.—Belladonna, Ergota, Ferri Perchlorid., Ferri Phosph., and Ferri Quin. Strych. Phosph. Syrup., Gokhru, *Antipyrin, Salix nigra.*

Incontinence of Urine.—Belladonna, Calcii Phosph., Cantharides, Ergota, Ferri Iodid., Ferri Perchlorid., Gokhru, *Antipyrin, Camphor Monobrom, Lycopodii Tinctura, Naphthalin.*

Indigestion.—See **Dyspepsia.**

Inflammation.—*Internal*—Aconite, Antimony, Belladonna, Digitalis, Gelsemium, Hydrarg. Subchlorid. and cum

Opio, Opium, Quinine preps., Salicin, Veratrina, *Antifebrin, Antipyrin, Kairin.*

Influenza.—Actæa, Ammon. Acet. Liq., Æth. Nit. Spt. Ammoniæ Spt. Aromat., Antim. Tart., Camphor, Hydrocyanic Acid, Ipecac. Co. Pulv., Opium and Morphine preps., Quinine preps.——*Local*—Cocain. Hydroch. Liquor. Inhalations of Eucalypti Ol. Menthol, Menthol and Camphor.—Internal—Salicinum, Sodii Salicylas.

Insomnia.—Ammon. Bromid., Bromal-Hydras, Butyl Chloral, Camphor, Camphor Monobrom., Cannabis Indica and Cannabin, Chloral, Coca, Codeina, Hyoscyamine, Lupulin, Morphine, Narceine, Opium, Paraldehyde, Papaverina, Piscidia, Potassii Bromid., Sodii Bromid., Stramonium, *Antifebrin, Antifebrin, Antipyrin, Amyleni-hydras, Bromidia, Chloralamide, Hypnone, Metaldehyde, Methylal, Strychnina and its salts, Somnal, Sulphonal, Tetronal, Uralium, Urethane.*

Intertrigo.—Acid. Boric. and Ung., Acid. Tannic. Glycerin., Calaminæ Lotio, Calcis Aqua. Calcii Carb., Camphor, Fuller's Earth, Kaolin, Vaseline, Zinci Cremor and Ung., Zinci Oleat. Pulv.

Intestinal Worms.—See **Parasites, Intestinal.**

Iritis.—*Internal*—Colchicum, Iodum, Hydrarg. Perchlorid. and Subchlorid., Potass. Iod.——*Local*—Atropina cum Vaselin., Atropinæ Sulph. Guttæ and Lamellæ, Belladonna, Duboisine.

Itch.—See **Scabies.**

Jaundice.—Acid. Nitro-Hydroch. Dil., Aloes, Ammon. Chlorid., Benzoates, Euonymin, Hydrarg. cum Cretâ, Hydrarg. Subchlor., Hydrastis, Iridin, Manganesii Oxid. and Mangan. Sulph., Podophyllin, Sennæ Co. Mist., Sodii Phosphas and Sodii Phosph. Efferves., Sodii Sulphas, and Sodii Sulph. Efferves., Stillingia, Taraxacum, *Ferri Succinas.*

Laryngismus Stridulus.—Amyl Nitris, Bromides, Chloral, Coniniæ Hydrobrom., Emetin, Piscidia.

Laryngitis, Acute.—Aconiti Tinct. and Pastil., Æthyl Iodid. (for Œdema), Ammon. Acetat. Liq., Antimony, Benzoini Vapor, Hydrarg. Subchlor., Juniper. Vapor, Pulsatilla, Thymol Vapor, Acid. Tannic. et Aluminis Gargarisma, Acid. Tannic. Glycerin, Argent. Nit.——*Local—Acid. Lactic.*

Laryngitis, Chronic.—*Local*—Bismuthi Oxychloridi cum Morphinâ Insufflatio, Catechu Pulv. Insufflatio, Creasoti Vapor, Eucalypti Gum. Insufflatio, Juniperi Vapor, Pini Sylvestris Vapor, *Menthol paint and insufflation.*

Leprosy.—Anacardium, Gurjun Balsam, Gynocardiæ Ol.

Leucocythemia.—Digitalis, Hypophosphites, Iodine Iron Salts, Phosphorus, Zinci Phosphid.

Leucorrhœa.—*Internal*—Iron Salts, Mineral Acids, Vegetable Tonics.——*Local*—Acid Carbolic. Lotio, Acid. Boric Lotio, Alumen, Hydrastis, Pulsatilla, Potassii Permang. Sodii Silicat. Liquor, Tannin and Alum Injection, Zinci Sulphocarbolas, *Abies Canadensis, Boric Acid in powder.*

Locomotor Ataxy.—Argent. Nit., Argent. Oxid. Morrhuæ Ol., Phosphorus, Physostigma, Pilocarpine, *Antifebrin, Antipyrin.*

Lumbago.—*Internal*—Actæa, Atropine, Belladonna, Capsicum, Cimicifugin, Colchicum, Colocynthis, Morphina inj. hypod., Potass Iodid.——*Local*—Atropinæ Linim., Belladonnæ Linim., Capsici Linim., Menthol Linim., Opii Linim., Picis Empl., Veratrinæ Ung.

Lupus.—*Internal*—Amyli Iodid., Arsenic, Gynocard. Ol., Iodum, Morrhuæ Ol., Phosphorus, Quinine preps.——*Local*—Acid. Chromic., Camphora Salicylata, Gynocardiæ Ung., Iodoform, Petrolei Ceratum, Zinci Chlorid. Pasta, Zinci Ung., *Acid. Lactic., Hydroxylamine, Resorcin.*

Mammary Abscess. See **Breast, Inflammation of.**

Mania.—Actæa, Atropine, Bromides, Cannabis and Cannabin Tannas, Chloral Hydras, Conine, Daturine, Digitalis, Duboisine, Gelsemina, Hyoscyamine, Morphine preps., Opium preps., Paraldehyde, *Hyoscine salts, Sulphonal.*

Measles.—Aconite, and Pastil of, Æther Nit. Spt., Ammon. Acet. Liq., Ammon. Carb., Ipecacuanha, Potass. Tart. Acida.

Melancholia.—Bromides, Camphora, Coca and Cocaine, Cannabis, and Cannabin Tannas, Musk, Nux Vomica, Phosphorus, Valerianates, *Damiana.*

Menière's Disease.—Acid. Salicylic., Bromides, Gelsemium, Gelsemine, Pelletierine.

Menorrhagia.—Acid. Gallic., Acid. Sclerotic., Acid. Sulph. Dil., Bromides, Cannabin, Digitalis, Ergota, Ergotin, Ferro-Alumen, Hamamelis, Iron Persalts, Vinca Major, *Hydrastis.*

Milk, to increase flow.—Acid. Lactic., Jaborandi and Pilocarpine, Malti Ext.——*Local*—Jatropha Curcas, and Ricinus Communis, leaves and oil of.

Milk, to arrest flow.—*Internal*—Agaricus albus and Agaricin, Belladonna and Atropine, Conium, Ergota, Saline Purgatives, Sodii Iodid. —— *Local* — Belladonnæ Empl. Glycerin. and Linim., Tabaci Cataplasm.

Myalgia.—*Internal*—Actæa, Ammon. Chlorid., Atropine inj. hypod., Cimicifugin, Iron Salts, Morphina inj. hypod., Salicylates.——*Local*—Belladonnæ Glycerin. and Linim., Capsici Empl. and Linim., Ether Spray, Iodi Linim., Menthol, Opium (in poultice), Veratrinæ Ung.

Myxœdema.—Arsenic, Iron Salts, Jaborandi, Nitroglycerine, Pilocarpine, Strychnine Preps.

Nasal Catarrh.—See **Catarrh, Nasal.**

Nævi.—*Local*—Acid. Chromic., Acid. Nitric., Collodium, Sodii Ethylas, Zinci Chlorid. Iodid. and Nitras.

Nephritis.—Buchu, Copaiba, Gokhru, Hordei Dec., Jaborandi, Lini. Infus., Pareira, Santal. Ol., Triticum Repens, Uva Ursi.

Nervous Debility, Nervousness.—Acid. Hydrobromic., Acid. Phosph. Dil., Ammon. Bromid., Asafœtida, Camphora, Chloral Hydras, Cimicifugin, Cypripedin, Ignatiæ Tinct., Lavand. Co. Tinct., Phosphorus, Piscidia, Potass. Bromid., Quinine preps., Quininæ Valerianas, Salicin, Scutellarin, Strychnine, Sumbul, Zinci Valerianas, *Sulphonal.*

Neuralgia.—*Internal*—Aconite, Actæa, Ammon. Chlorid., Ari Succus, Arsenic, Beberinæ Sulph., Bromides, Butyl Chloral, Caffeine, Chloral-Hydras, Cinchonine, Cinchonidinæ Sulph. Colchicum and Colchicin, Conium and Coninæ Hydrobromas, Gelsemium and Gelsemin, Hyoscyamine, Iron Salts, Narceine, Nitroglycerine, Phosphorus, Quinine preps., Quininæ Hydrobrom., Theine, Tonga. —— *Local* — Aconiti Linim., Aconitinæ Ung., Belladonnæ Linim. and cum Chloroform., Chloral Hydras cum Camphor, and cum Menthol, Chloroform, Delphinæ Ung., Menthol, Menthol Linim., Morphinæ Oleat., Oleanodyne, Opii Linim., Po-ho-yo, Veratrinæ Ung., *Chloroformum Aconiti, Delphina, Menthol cum Aconitina, Methyl Chloridum.—Internal—Antipyrin, Cannabina, Exalgine, Monobromacetanilide, Phenacetin, Salicylates and Salol.*

Night Sweats.—Acid. Gallic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Amyl Nitris, Atropine and inj. hypod., Belladonna, Calcii Chlorid., Coto and Cotoin, Homatropine, Hypophosphites, Ipecac. Co. Pulv., Iron Salts, Jaborandi and Pilocarpine, Muscarine Nit., Picrotoxin, Quinine preps., Zinci Oxid.

Nipples, Fissures of, and Sore.—See **Fissures of Nipples.**

Nymphomania and Satyriasis.—Bromides, Camphor, Conium, Tabaci Folia.

Obesity.—Alkalies and Alkaline Carbonates, Fucus Vesiculosus, Iodum, Potassii Iodidum.

Ophthalmia.—See **Conjunctivitis.**

Ophthalmia Tarsi.—*Local*—Acid. Boric. Lotio, and Ung., Hydrarg. Oxid. Flav. Ung., Iodoform. Ung., Glycerini, Plumbi Subacetatis Ung.

Orchitis.—Anemonin, Phytolacca.

Otorrhœa.—*Local*—Acid. Tannic. Glycerin., Argent. Nit. and Bism. Insuffl. T.H., Alum. Insuffl., Alum and Bism. Insuffl. T.H., Calendula, Carbonis Deterg. Liq. (as Lotion), Acid. Boric. Insufflat., Iodoform Wool and Insuffl. cum Bismutho T.H.

Ozæna.—*Local*—Acid. Boric. Lot. and Ung., Acid. Carbolic. Buginarium, Aldehydi Vapor, Alumen, Alumin. Acet. Liq., Creasoti Vapor, Cupri Sulph. Buginarium, Eucalypti Globuli Infus. and Tinctura, Iodoformi Buginarium, Iodoformi Rosat. Ung., Potass. Permangan. Lotio, Sanitas (toilet), Sodii Chlorinat. Liq., Sodii Chlorid., Sodii Silic. Sol., Thymol Lotio, Zinci Sulphocarb., Zinci Sulph. Buginarium, *Hydrocotyle Asiatica.*

Palpitation.—Aconite, Bromides, Camphora, Cannabis, Cimicifuga, Convallaria, Digitalis, Valerianates.

Paralysis Agitans.—Hypophosphites, Hyoscyamus, Iron Salts, Phosphorus, Physostigma, Strychnine.

Paralysis, Diphtheritic.—Iron Salts, Pepsin, Nux Vomica, Ferri Iodid.

Paralysis, Hemiplegia.—Ergota, Iron Salts, Nux Vomica, Phosphorus, Physostigma and Physostigmine.

Paralysis, Paraplegia.—Ergota, Hypophosphites of Iron, Calcium and Sodium, Iron Salts, Ergota, Phosphorus, Physostigma and Physostigmine, Rhois Tinct., Strychnine.

Parasites, Animal, on Skin.—*Local*—Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio and Ung., Hydrarg. Ammon. Ung., Naphthalin Ung., Napthol Ung., Pyrethri Flores Pulv. and Tinct., Sapo viridis, Staphisagria, Sulphur Baths, Lotion and Ung., Sulphurated Lime Lotion.

Parasites, Vegetable, on Skin.—*Local*—Acid. Boric., Acid. Carbolic., Acid. Chrysophanic. Ung., Acid. Sulphuros., Hydrarg. Oleat., Phosphor. Ol., Picrotoxin Pigment., Sodii Hyposulphit. Lotio., Thymol Ung.

Parasites, Intestinal Worms.—Areca (Ascarides and Lumbrici), Cambogia, Ferri Perchlorid. Enema (Ascarides), Felix Mas (Tænia), Hydrarg. Subchlorid., Jalapa, Kamala

(Tænia), Kousso (Tænia), Mucuna, Pelletierinæ Sulph. and Tannas (Tænia), Quassiæ Enema (Ascarides), Santonin and Sodii Santonas (Ascarides and Lumbrici), Scammonium, Terebinth. Ol., *Naphthalin, Sethia acuminata, Santoninoxim.*

Peritonitis.—Aconite, Digitalis, Hydrarg. Subchlroid. cum Opio, Opium, Opium and Belladonna, Veratrum Viride, *Antifebrin, Antipyrin, Kairin.*

Perspiration, Excessive.—*Internal*—Acid. Phosph. Dil., Acid. Sulph. Aromat., Atropine and inj. hypod., Belladonna, Ergota, Jaborandi and Pilocarpine, Picrotoxin, Quinine preps.——*Local*—Amyli Pulv., Diachyli Ung., Kaolin, Tannin, Zinci Oleat. Pulv. and cum Thymol., Zinci Oxid., *Abies Canadensis, Naphthol.——Internal—Agaricin, Sulphonal.*

Perspiration, Fetid.—*Local*—Acid. Boric. Lotio. and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Pulv. cum Talco, Aluminii Acet. Lotio. Belladonnæ Linim., Diachyli Ung., Glycerini Plumbi Subacet. Ung., Salicylic Suet, Zinci Oleat. cum Thymol.

Phthisis.—Acid. Lactic. and Lactates, Aconite, Æthyl Iodid., Arsenic, Benzoates, Caffeine, Calcii Chlorid., Calcii Hypophosph. and Phosph., Codeine, Coto, Creasotum, Gynocardiæ Ol. (externally), Iodi Linim. and Vapor, Ipecac. Nebula, Iron Salts, Morrhuæ Ol., Pancreatin, Pepsin, Picrotoxin, Piscidia, Prunus Virginiana. Quinine preps., Salicin Salicylic Acid and Salicylates, Sodii Hypophosph., Terebenæ Vapor, Verbascum Thapsus, *Acid. Hypophosph., Acid. Phenylacetic., Acid. Phenylpropionic., Acid. Tannic., Aniline treatment, Antifebrin, Antipyrin, Fluoric Acid and Ammonium Fluoride inhalations, Guaiacol, Lipanin, Menthol, spray of, Morrhuæ Ol. Emuls., Sodii Hypophosph. Syrup., Sulphuretted Hydrogen treatment.*

Piles.—See **Hæmorrhoids.**

Pityriasis.—*Local*—Acid. Boric. Lotio and Ung., Acid. Chrysophanic. Ung., Boracis Glycerin. and Lotio, Gynocardiæ Ung., Huile de Cade, Picis Ung., Glycerini Plumb. Subacet. Ung.

Pleurisy.—Aconite, Ammon. Acet. Liquor, Antimony, Bryonia, Jaborandi, Lyttæ Empl., Morphine preps., Potass. Iodid., Quinine preps., *Apocynum cannabinum for Pleuritic effusion.*

Pleurodynia.—See **Myalgia.**

Pneumonia.—Acid. Salicylic., Aconite, Ammon. Carb., and Chlorid., Antimony, Digitalis, Hyoscyamus, Morphine preps., Quinine preps., Salines, Veratrum viride, *Caffeine.*

Post Partum Hæmorrhage.—See **Hæmorrhage.**

Pregnancy, Vomiting of.—Belladonna, Bismuth preps., Cerii Oxalas, Chloroform, Creasote, Hydrocyanic Acid, Ingluvin, Ipecac. Vin., Iridin, Morphine preps. and inj. hypod., Nux Vomica, Pepsin, Quinine preps., *Antipyrin, Spt. Nucis Juglandis.*

Prurigo.—*Internal*—Arsenic, Bromides, Iron Salts, Pilocarpine, Quinine preps.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Borax, Cocainæ Ceratum, Iodoformi Ung., Pilocarpine, Staphisagria, Sulphur. Ung., Sulph. cum Hydrarg. Ung., Tar, *Ichthyol.*

Pruritus Ani, Vulvæ, &c.—*Local*—Acid. Benzoic., Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Ung., Acid. Sulphuros. Lotio, Alkalies (Lotion of), Alumen, Argent. Nit. Sol., Carbonis Liq. Lotio., Chloroformi Ung., Cocainæ Ceratum, Gallæ cum Opio Ung., Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Subchlorid. Ung. and Lotio Nigra, Glycerini Plumbi Subacet. Ung., Potass. Cyanid. Lotio, Tannin, *Conii Ung. and Lanolin of, Menthol, Mentholeate, Menthol et Boracis Lotio.*

Psoriasis.—*Internal*—Arsenic preps., Cantharides, Gynocardiæ Ol., Hydrarg. Iodid. Viride, Iron Salts, Morrhuæ Ol., Phosphorus, Quinine preps., Sulphur.——*Local*—Acid. Carbolic. Ung., Acid. Chrysophanic. Ung., Acid. Pyrogallic. Ung., Acid. Salicylic. Ung., Betulæ Pyrolig. Ol., Carbonis Liq. Lotio, Fagi Pyrolig. Ol., Gynocardiæ Ol., Huile de Cade, and Ung., Ichthyol, Picis Ung., Rusci Pyrolig. Ol., Sulphides (in Baths), Sulphuris Hypochloritis Ung., *Anthrarobin, Hydracetin, Hydroxylamine, Lanolin, Mollin, Naphthol, Levico Water, mild and strong.*

Puerperal Fever.—Acid. Boric, Jaborandi and Pilocarpine, Ferri Perchlorid., Opium, Quinine, Terebinth. Ol., *Antifebrin, Antipyrin.*

Pupil of Eye: to contract and dilate.—See **Eye.**

Purpura.—Acid. Gallic., Acid. Sulphuric. Dil., Ergota, Iron Salts, Phosphorus, Quinine preps., Terebinth. Oleum.

Pyæmia.—Acid. Salicylic, Eucalyptus Globulus, Kairine, Quinine preps., Resorcin, Salicin, Sulphites.

Pyrosis.—Acid. Hydrocyanic., Acid. Hydrochlor. Dil., Acid. Nit. Dil., Acid. Sulphuros., Bismuth preps., Carbo Ligni, Cerii Oxalas, Magnesia, Manganesii Oxid., Sodii Bicarb., Sodii Sulphocarbolas.

Quinsy.—See **Throat Inflammation.**

Remittent Fever.—Apiol, Eucalyptus Globulus, Narcotina, Quinine and other Cinchona Alkaloids, Salicin, Warburg's Tincture.

Rheumatism, Acute.—Acid. Benzoic and Benzoates, Acid. Salicylic and Salicylates, Aconite, Actæa and Cimicifugin, Colchicum and Colchicin, Coto and Cotoin, Ferri Perchlorid., Lemon or Lime Juice, Opium, Ozonic Ether, Potass. Bicarb. Cit. and Nit., Quinine preps., Salicin, Trimethylamine, *Antifebrin, Antipyrin, Cresol Salicylas, Salol, Sodii Dithio-salicylas.*

Rheumatism, Chronic.—*Internal*—Actæa, Antim. Sulphurat., Arsenic, Cimicifuga, Cinchonidinæ Salicylas, Colchicum, Ferri Iodid. Syr., Ferri Salicylas., Gelsemium, Guaiacum, Iodum., Phytolaccin, Podophyllin, Potass. Iodid., and cum Quininâ, Rhus.——*Local*—Atropinæ Linim., Bellad. Linim. and Linim. Co., Camph. Co. Linim., Capsici. Emp. and Linim., Chloral cum Camphor., Eucalyptus Oil., Opii Linim., Pini Sylvest. Oleum.——*Internal—Betol, Gaultheriæ Oleum, Ichthyol, Lithii Hippuras, Pelletierina.—Local—Belladonnæ Chloroformum.*

Rheumatoid Arthritis.—Actæa, Arsenic, Colchicum, Ferri Salicylas, Lithii Carb. and Citras., Morrhuæ Ol., Potass. Bromid. and Iodid., Sulphides (Baths of).

Rickets.—Acid. Phosph. Dil., Calcii et Ferri Phosph. Pil., Calcis. Liq. Sacch., Calcii Chlorid., Calcii Phosph., Calcii

Lactophosph. Syr., and cum Ferro, Ferri Phosph. Syr., and Comp., Morrhuæ Ol., Ferri Vinum, Wheat Phosphates Saccharated, *Calcii Hypophosph. Syrup., Liq. Ferri Hypophosph. Comp.*

Ringworm.—See **Tinea.**

Salivation.—*Internal*—Acid. Hydroch. Dil., Chlorates, Coto.——*Local*—Acid. Boric., Alumen, Borax, Chlorates, Creasoti Vapor.

Sarcinæ.—Acid. Sulphuros., Calcii Chlorid., Sodii Hyposulphis, Sodii Sulphis, Sodii Salicylas.

Satyriasis.—See **Nymphomania.**

Scabies.—*Local*—Calcis. Sulphurat. Lotio, Hydrarg. Perchlorid. Ung., Naphthalin Ung., Naphthol Ung., Potass. Sulphurat. Balnea, Styracis Ung., Sulphur. Ung., Sapo Viridis, *Mollin.*

Scalds.—See **Burns.**

Scarlatina.—Acid. Salicylic., Aconite, Ammon. Carb., Belladonna, Ozonic Ether, Potassii or Sodii Chloras, *Crotalus, Eucalypti Tinct.*

Sciatica.—*Internal*—Actæa and Cimicifugin, Atropine, Colchicum and Colchicin, Croton Ol., Lithii Citras, Morphinæ inj. hypod., Potass. Iodid., Tereb. Ol.——*Local*—Aconitinæ Ung., Bellad. Linim., Chloroform Linim., Menthol, Menthol cum Camphorâ, Menthol Linim., Veratrinæ Ung., *Methyl Chloridum.* —— *Internal — Antifebrin, Antipyrin, Potassii Osmias, Salol, Sodii Salicylas.*

Scrofula. — Calcii Phosph., Calcii Sulphid., Calcii Chlorid., Ferri et Calcii Phosph. Pil., Ferri Iodid. Syr., Ferri Phosph., Hydrarg. Iodid. Virid., Iodum., Iodoform., Morrhuæ Ol., Quinine preps., Rumicin, *Morrhuæ Ol. Emuls.*

Scurvy.—Lime Juice, Lemon Juice, Phosphorus, Potass. Chloras and Citras, Sassafras.

Sea-Sickness.—Amyl Nitris, Chloral Hydras, Chloroform., and Tinct. Co., Cocainæ Hydrochloras, Morphinæ inj. hypod., Nitroglycerine, Tablets ($\frac{1}{200}$ gr.), Potass. Bromid., Sodii Bromid., Sodii Nitris, *Antipyrin, Cocaine tablets and solutions, Eucalypti Troch., Hyoscyamina, Resorcin.——Local —Icebags.*

Shingles.—See **Herpes Zoster.**

Sleeplessness.—See **Insomnia.**

Spasm.—Aconite, Æther, Ammon. Arom. Spt., Amyl Nitris, Atropina. inj. hypod., Cajeput. Ol., Camphora, and Camphor. Spt. Fort., Chloroform, and inhaled, Chloromorphiæ Liq., Conina, Menth. Pip. Ol., Opium, Piscidia.

Spina Bifida.—*Local*—Iodi Linim., Iodo-Glycerine inject.

Stomatitis.—*Internal*—Eucalypti Globuli Tinct., Hydrastis, Potassii Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Carbolic., Acid. Salicylic., Acid. Sulphuros, Alumen, Borac. Glyc. and Mel., Calcis Aqua, Cupri Sulph., Myrrhæ et Boracis Tinct., Sodii Chloras. *See Pastils.*

Sunstroke.—Apomorphina, Atropinæ inj. hypod., Enemata purgative, Morphinæ inj. hypod., Quinine, Sinapis Emplast.

Syphilis, Constitutional.—*Internal*—Ammon. Iodid., Amyli Iodid., Ferri Iodid. Syrup, Hydrarg. cum Cretâ Hydrarg. Cyanid. Pil., Hydrarg. Iodid. Rub. and inj. hypod. Hydrarg. Iodid. Viride, Hydrarg. Perchlorid., Hydrarg. Pil.

Hydrarg. Subchlorid., Hydrarg. Tannas, Iodum, Phytolacca, Potass. Iodid., Sarsa, Sodii Iodid., Stillingia, *Manaca, Hydrargyri Carbolas, Salicylas, Succinimidum, and Thymolacetas, Hydrarg. et Potass. Iodid., Siegesbeckia orientalis, Succus alterans, Syrupus Acidi Hydriodici.*——*Local*—Hydrarg. Oleat. and cum Morphinâ, Hydrarg. Ung., "*Grey Oil*" *inject., Lanolinum Hydrargyri.*

Syphilis, Skin Diseases.—*Local*—Hydrarg. Ammon. Ung., Hydrarg. Emplast., Hydrarg. Nit. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Ung., Hydrarg. Subchlorid. Balnea, Fumigation and Ung., Hydrarg. Ung., Iodoformi Gossypium, and Ung., Pix Liquida, Resorcin.

Syphilitic Sore Throat.—Alum. Garg., Borax Garg. and Mel Boracis, Hydrarg. Cyanid. Garg., Hydrarg. Perchlorid. et Potass. Chlorat. Pastil., Hydrarg. Perchlorid. Garg., Iodoformi Insufflatio and Pastil., Potass. Chlorat Garg. Pastil. and Troch., Sodii Chloras Garg. and Troch., *Insufflatio Iodoformi Comp.*

Syphilitic Ulcers.—*Local*—Amyli Iodid Pasta, Hydrarg. Acid. Nit. Liq., Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Flava and Nig. Lotio, Hydrarg. Subchlorid., Iodoform and Collodium cum Iodoformo, Iodoform Wool, Iodoformi Ung., Resorcin, Zinci Chlorid. Iodid. and Nitras. *Collod. Salicylic. c. Hydrarg. Perchlor., Iodol, Hydrarg. Naphthol, Thio-Resorcin.*

Tetanus.—Amyl Nitris, Cannabis, Chloral Hydras, Conia, Curara, Gelsemium, Morphine, Nicotine, Opium, Pelletierine, Physostigma and Physostigmine, *Coninæ Hydrobromas, Pilocarpina, Strophanthus, Urethane.*

Thirst, to Relieve.—Acid. Citric., Acid. Phosph. Dil., Acid. Sulph. Aromat., Acid. Tartaric., Coca, Elixir Acid., Potass. Tart. Acida.

Throat, Inflammation of, and Tonsillitis—*Internal*—Acid. Salicylic., Aconiti Tinct. and Pastil, Antimony, Belladonna, Ferri Salicylas, Quininæ Salicylas.——*Local*—Benzoin. Tinct. Vapor, Iodi Vapor, Juniperi Ol. Vapor, Chlorates in Pastil and Troch., Lupulin Vapor.——*Internal*—*Antifebrin, Antipyrin, Cocaine, Pigment of, Salicylates, Sodii Benzoas.*

Throat, Relaxed Sore.—*Local*—Acid. Carbolic. Pastil. and Vapor, Acid. Hydroch. Dil., Acid. Tannic Garg. and Glycerin., Alumen and Glyc. Aluminis, Argent. Nit., Benzoin. Tinct. Vapor, Bismuth. Pastil., Catechu Insufll., Eucalyptus Gum Insufll., Ferri Perchlorid. Pigment., Ferro-Alumen, Guaiaci Troch., Pini Sylvest. Vapor, Uranii Nitras, *Ammonii Chloridi Vapor, Geranium maculatum, Hydrastis as gargle.*

Thrush.—See **Aphthæ.**

Tinea Favosa, and Sycosis.—*Local*—Acid. Carbolic. Glycerin., Chrysarobinum, Acid. Sulphuros., Anacardium, Cupri Oleat. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid, Lotio., Iodi Linim., Menthol, Picrotoxin Pigment, Sodii Hyposulph. Lotio, *Ichthyol, Lanolin.*

Tinea Tarsi.—See **Ophthalmia Tarsi.**

Tinea Tonsurans.—*Local*—As for **T. Favosa** and—Cantharid. Pigment, Hydrarg. Nit. Acid. Ung., Iodi et Olei Picis Pigment., Iodized Phenol, *Siegesbeckia orientalis, Coster's Paste, Hydronaphthol Plaster.*

Tinea Versicolor.—*Local*—Acid. Chrysophanic., Acid. Sulphuros., Borac. Glycerin., Lotio Calcii Sulphurati, Gynocard. Ol., Sodii Hyposulph. Lotio.

Toothache. —*Internal*—Acid. Hydrobromic, Butyl-Chloral Hydras, Gelsemium, Gelseminæ Hydroch., Gelsemin., Morphinæ inj. hypod., Piscidiæ Ext. Fluid., Quin. Tinct. Ammon. ——*Local*—Acid. Arsenios., Acid. Carbolic., Butyl-Chloral cum Menthol, Caryophyll. Ol., Chloroform. cum Camph., Chloroform. cum Mastic., Cocaina, Creasotum, Iodi et Aconiti Tinct., Opii Tinct., Pyrethri Tinct., *Eugenol, Phenol-sodique, Potassii Permanganas.*

Trichinosis.—Ergota, Ergotin, and Sclerotic Acid.

Typhoid Fever.—Acid. Salicylic., and Salicylates, Ammon. Carb., Cinchona Alkaloids, Ergota. (for Intestinal Hæmorrhage), Eucalyptus Globulus, Kairine, Sodii Chloras, *Hydrarg. Naphthol-acetas, Naphthol, Thallin, Thymol.*

Typhus Fever.— Antimony, Ammon. Carb., Belladonna, Cinchona Alkaloids, Eucalyptus Globulus Hydrastis, Kairine.

Ulcers.—*Local*—Acid. Boricum Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Gossypium and Ung., Argent. Nit., Belladonnæ Glycerin., Carbonis Cataplasm, Chartazine, Collodium, Cupri Oleat. Ung., Eucalypti Ung., Fermenti Cataplasm., Hydrogen Peroxid., Plumbi Subacet. Glycerin. and Ung., Potass. Permang., Resinæ Ung., and Res. Ung. cum Chlorof., Sanitas, Styptic Colloid, Zinci Chlorid., Zinci Oleat. Ung., Zinci Sulph. Lotio, *Bismuthi Oxyiodid, Eucalembroth gauze, Eucalyptus Sawdust, Galium aparine, Iodol, Lanolin, Naphthalin, Papain, Salol.*

Urine, Incontinence of.—See **Incontinence.**

Urine, Tests for Albumen. — Acidulated Brine; solution; Millon's test; Picric Acid; Sodium Tungstate Ferrocyanic Acid Pellets; Iodo-mercurate of Potassium papers; *Trichloracetic Acid.*

Urine, Tests for Sugar.—Ammoniated cupric test of Pavy, Cupric Pellets, Fehling's solution, and glass capsules of; Indigo-carmine papers; Phenyl-hydrazine Hydroch orate.

Uræmia.— Amyl Nitris, Caffeine, Digitalis, Elaterin, Pulv. Co., Jaborandi and Pilocarpine, Jalapæ Pulvis Co., Nitroglycerine, Scilla, Scoparii Succus, *Apocynum Cannabinum, Lithii Hippuras, Potassii Cobalto-nitris, Sodii Benzoas.*

Urticaria.—*Internal* — Apis Mellificæ Tinct., Bromides, Mistura Alba, Sodii Bicarb.——*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio, Acid. Carbolic. Lotio, Acid. Hydrocyanic. Dil. Lotio, Chloroform. Ung., Cocainæ Ceratum, Plumbi cum Lacte Lotoi, Sodii Carb. Balnea.——*Internal—Antipyrin.*

Uterus, Catarrh of.—See **Catarrh, Uterine.**

Uterus, To cause Contraction of.—Borax, Caulophyllin, Cimicifuga, Ergota, Ergotin, Ergotinine, Gossypii Rad. Cortex., Hamamelis, Sclerotic Acid, *Hydrastis, Ustilago Maidis.*

Variola, To prevent Pitting.—Acid. Boric. Ung., Acid. Carbolic. Ol., Amyli Glyc., Argent Nit., Calcis Linim., Collodium, Hydrarg. Ung., Styptic Colloid., Zinci Oleat. Ung.

Vertigo.—Caffeine, Guarana, Quininæ Valerian., Quinine, Ammon. Spt. Arom., Strychnine, Zinci Valerianas.

Vomiting.—Acid. Carbolic, Acid. Carbonic., Acid. Hydrocyanic. Dil., Beef Essence (Brand's), Belladonna, Bismuth Preps., Calcii Chlorid., Calcis Aqua, Cerii Oxalas, Chloral, Chloroform preps., Ingluvin, Ipecacuanha, Liquor Sodæ Effervescens, Magnes. Carb. Liq., Morphinæ inj. hypod., Nitroglycerine, Nux Vomica, Potass. Bicarb. cum Acid. Citric. Mist. Efferves., Sodii Phosph. Effervescens, *Berberina, Coca and Cocaina.*

Warts and Corns.—*Local*—Acid. Acetic. Glaciale, Acid. Carbolic., Acid. Chromic., Acid. Nit., Boroglyceride, Collodium Salicylicum, Collodium Callosum, Anacardium, Argent. Nit., Iodi Linim., Papayotin, Potassæ Liquor, Thuja, *Collodium Salicylicum c. Acid. Lactic.*

Whooping-Cough. — Acid. Benzoic. and Benzoates, Acid. Hydrocyanic. Dil., Alumen, Amyl Nitris, Atropine, Belladonna, Bromides, Bryonia, Calcis Aqua, Camphora Monobrom., Cannabis, Chloral, Conium, Ergot, Gelsemium, Grindelia, Himrod's Cure, Lobelia, Narceina, Opium, Ozonic Ether, Potass. Carb., Senega, Succini. Ol. (external), Stramonium, Zinci Oxid. and Sulphas.——*Internal—Acid. Carbolic Glyc., Antipyrin, Apomorphinæ Hydrochloras (minute doses), Bromoform, Phenacetin, Rubidium Ammonium Bromide.*

Wounds.—*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio and Ung., Acid Carbolic. Carbasus Lotio and Ung., Acid. Salicylic. Lotio and Ung., Aluminii Acet. Lotio, Arnica, Benzoin. Tinct., Calendula, Camphora Salicylata and Gossypium, Chartazine, Collodium, Eucalypti Carbasus and Ung., Hydrarg. Perchlor. Lotio, Iodoform, Iodoform Wool and Ung., Kaolin Ung., Petrolei Cerat., Plumbi Subacet. cum Petroleo Ung., Potass. Permang., Resorcin, Styptic Colloid, Thymo. Lotio, Zinci Chlorid., Zinci Sulphatis Lotio. *Acid. Oxynaphthoic., Alembroth gauze, Emplastrum Lithii, Ichthyol, Eucalembroth gauze, Hydronaphthol, Iodoformi Emuls., Iodol, Lanolin, Mercuro-Zinc Cyanide and Gauze, Naphthol-Camphor, Salol, Sanitary Wood Wool Wadding, Sodii Fluo- silicas, Sphagnum, Sublimate Lotiforms, Thio-resorcin.*

Yellow Fever. — Antifebrin, Antipyrin, Cinchonine, Kairine, Jaborandi, Pilocarpine, Piperina, Quinina, Warburg's Tincture.

Zoster.—See **Herpes.**

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